ERGO-FIT®

Owner‘s manual

CARDIO LINE 400

CARDIO LINE 400

Please read this manual carefully before use and keep it in a safe place for future reference

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Development and production of all devices of the MED series according to the European Medical Device Directive 93/42/EWG. They thus show the CE marking and the number of the notified body.

CE0297

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This owner's manual has been created with great care. Please inform us of any detail that does not correspond to your training tool to allow for the quickest possible remedy of any possible discrepancy.

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Dear customer,

we are glad that you have decided to purchase an ERGO-FIT training tool. You are now the owner of a sophisticated and exclusive training system that combines highest technical standards with practice oriented ease of use.

You will find important information on the operation and use of your training machine in this owner’s manual. We recommend that you read this owner’s manual carefully before training in order to become familiar with your training device quickly and to understand its correct and safe use.

Should you have any questions that are not answered in this manual, please contact us. The ERGO-FIT team is always there for you!

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Please note:
This owner's manual contains information on multiple gym machines.
There may be variations in detail according to the type of machine!

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1 General information

1.1 Cardio equipment at a glance

ERGO-FIT's CARDIO LINE 400 offers you a cardio machine range dedicated to train the cardiovascular system. It allows for training of smaller muscle groups. ERGO-FIT cardio machines offer you best training possibilities, regardless of your age, gender or state of fitness.

Among others, the optimal load regulation and the precise training control are highlights of the whole product line. In addition, the quiet operation, the ease of use and the customisation demonstrate ERGO-FIT's focus: A high technical standard, optimal training possibilities and precise training control, combined with customerfriendly ease of use.

However, technology alone is not all that is required to develop outstanding training machines. They also need to meet biomechanical and sports medical requirements. Priority is given to the human being. Thus, a sophisticated training and testing system can only be developed by combining technical electronic expertise with the latest advances in sports medicine and coaching science. ERGO-FIT clearly met this target.

Our CARDIO LINE is divided in:

- ⊗ **CARDIO LINE 400**: training machines especially designed for use in a gym
- ⊗ **CARDIO LINE 400 MED**: training machines especially designed for medical purposes

The lifetime of the equipment is 6 years.

Advantages and benefits
Regular training on these machines reduces the risk of cardio-vascular diseases and increases physical capacities in an optimal way - even at an advanced age. Your workout machine represents an indispensable tool in injury prevention and rehabilitation. You will feel fit, more agile, more attractive, and more balanced.

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1.2 General information on this manual

This manual provides you with helpful information, regardless of if you are already familiar or have no experience with ERGO-FIT training machines.

It is structured in such a way that you can find the desired information in the table of contents easily and thematically. In addition, a short manual has been produced for those users who are already familiar with ERGO-FIT training machines. However, if you belong to this user group and wish to read the short manual only, you should review the safety information first.

The manual will give you many hints and tips, which will familiarise you with your cardio machine's features and allow you to become an experienced user very quickly.

You should always keep this manual easily accessible. This saves you from having to make unnecessary and time-consuming queries and enables you to fix any possible error rapidly.

1.3 Scope of delivery

Please check if the delivery is complete and inform our sales department immediately of any missing parts (phone: +49 (6331) 2461-0).

Please ensure that the following parts are included in your delivery:

1. The correct type of training machine (model, series)
2. One mains connection cable for each unit (CYCLE 407/457 MED; CYCLE 400/450's mains cable is firmly connected with the machine)
3. The manual in paper copy and the digitalised version on a multimedia CD-ROM

Please note that accessories (e.g. POLAR-sender) are not included in the delivery and need to be ordered separately.

1.4 Service

Our service comprises problem analysis, technical support, and information services.

In case of technical questions and service orders, please call us at:

Head office:	Phone:	+49 (6331) 2461-0
	Fax:	+49 (6331) 2461-55
Service and spare parts:	Phone:	+49 (6331) 2461-22
	Phone:	+49 (6331) 2461-23
	Phone:	+49 (6331) 2461-27
	Phone:	+49 (6331) 2461-29

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2 Safety information

Before starting to use your new ERGO-FIT equipment, please read the following chapter carefully and respect all safety regulations.

Please keep this manual in a safe place in order to be able to provide it to future owners if you sell your training machine.

For evidence of ownership, please fill in the following data:

Model/product line: _____

Serial number: _____

Date of purchase: _____

You will also need these data in case of guarantee claims.

The following symbols designate important information:

	Caution!	It is absolutely necessary to observe this **warning** in order to avert any danger to your life or health.
	Danger!	It is absolutely necessary to observe this **warning** in order to avoid any material damage.
	Danger!	**Danger:** It is imperative to switch off and disconnect the training machine.
	Hint!	Important information and hints are displayed here to improve operations.

2.1 What you need to know when using your training machine

⊗ Please read the owner's manual carefully before starting to use your new ERGO-FIT equipment.

⊗ Familiarise yourself with the machine before you start it (only CARDIO LINE 400 MED, MPBetriebV).

⊗ Only use the machine after a proper function test (get more information on this in chapter 7.3). For your own safety and before every use, please check the

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machine for damage (loose screws, worn parts, cords etc). If the machine is damaged, do not use it until it is repaired.

⊗ Before using the machine please check that the saddle is firmly seated by fixing the horizontal and vertical saddle adjustment (see chapter 6.3). Otherwise there is a risk of injury

⊗ In order to reduce any risk during training, please put on sportswear and appropriate footwear.

⊗ In case of nausea, dizziness, pain in the chest, limbs or joints, stop training immediately and see a doctor.

⊗ If you have a cardiac pace maker or a health condition, please see your doctor before using the training machine. If this is the case, you should discuss the training programme with him. In addition, you should only train in MANUAL mode.

⊗ Your training machine is not a toy! Never leave children unattended with the machine. Children cannot always assess possible danger. Parents or other supervisors should always be aware of their responsibility because children dispose of a natural play instinct and eagerness to experiment that may produce situations and behaviour the training machine is not designed for.

⊗ The machine should only be used after consulting a doctor and / or a supervisor. The machine must not be used without the presence of a supervisor (only CARDIO LINE 400 MED).

⊗ Make sure that persons who stand close to the machine are not hit by moving parts.

⊗ Danger! The user's maximum body weight is 180 kg. Make sure not to overload the machine.

⊗ Do not place any beverages or food on your training machine.

⊗ Do not stand on the casing of the machine and do not lean on the control panel.

⊗ Once per week, inspect the seat, the handlebar, the pedals, and the casing for damage. If the machine is damaged, get it repaired immediately.

⊗ Tighten the pedals and the pedal arms after 3 to 5 operating hours. Otherwise, there is a risk of damage, which can be a risk of injury to the user (see chapter 9.1).

⊗ Make sure to tighten the seat clamp after adjusting the seat. Otherwise, there is a risk of injury.

⊗ Warm up thoroughly before training. Start the training slowly and gradually increase the intensity until you reach the desired degree of difficulty within your range of control.

⊗ Do not lean over the handlebar and do not shift your body weight over the side

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of the machine. There is a danger of falling over.

⊗ Do not take your feet off the pedals during training.

⊗ Do not jump from the training machine during your workout.

⊗ Please review the additional safety and operational instructions in this manual.

All safety instructions in this manual are based on many years of experience and selfconception

2.2 Operational safety - what needs to be done

⊗ After delivery, make sure that the machine has not been damaged during transport. In case of doubt, contact our customer service and do not start the machine.

⊗ Slots and openings on the machine serve as ventilation. Do not cover these openings, because this can cause the elements to overheat.

⊗ Check if the power connection cords are damaged before starting the machine.

⊗ Switch off the machine after training and disconnect it from the grid.

⊗ Set up the training machine so that there is sufficient open space around it (at least 1 m) to avoid any danger for the user or others. The user will not collide and in addition, this prevents interferences in heart rate measuring.

⊗ The provisions EN 60601-1-1:2001 (medical electrical equipment) are valid for machines of the series CARDIO LINE 400 MED.

2.3 Caution: Risk of electric shock

⊗ Only connect your machine to an appropriate mains supply (see Chapter 5.4.1).

⊗ Make sure to have the right climate conditions (see Chapter 5.3).

⊗ Do not use damaged power cords.

⊗ To unplug the cord, grasp the plug and not the cord. Do not unplug by pulling on the cord.

⊗ The machine must not be opened before it is switched off and unplugged.

⊗ If liquid gets inside the machine, disconnect the plug immediately and call the customer service.

⊗ Do not put any objects through the ventilation slots into the machine. This may cause a short circuit.

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2.4 Choosing the right place of installation

⊗ The machine can be set up on any level and stable floor. Make sure that it stands firmly on the floor.

⊗ Never put wood, cardboard or similar materials underneath the machine to compensate for surface unevenness. This increases the risk of an accident.

2.5 What needs to be considered in case of repair

⊗ Electric parts may only be replaced by original equipment.

⊗ Repairs must be carried out by a qualified technician only. If you do not have the necessary qualifications, contact the ERGO-FIT Service Centre.

2.6 What should be avoided

⊗ Only use the machine for the purposes it is designed for. If you use the ERGOFIT machine improperly, you will be charged for all damages resulting from this. Any guarantee claim will be excluded!

⊗ Never use the machine in any way other than for those purposes described in this manual. Improper use can damage the machine and be hazardous to your health.

⊗ You should never exercise on a damaged machine.

⊗ The machine must not be used without electric current.

⊗ When exercising, you should never try to exceed your current performance level. This may seriously damage your health.

⊗ You should never prop up your body on the machine and make improper movements. This increases the risk of falling.

A summary of the most important safety precautions can be found in the appendix of this manual. You should remove this summary and display it near the machine where it is clearly visible. All users of the machine must familiarise themselves with the dangers and safety regulations. The manufacturer will not be liable for personal injury or material damage.

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Chapter 3: Short manual

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There may be variations in detail according to the type of machine!

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3 Short manual

After delivery of your cardio machine, please check first if the serial number (see type label) is identical with the one indicated on the delivery note and if all components listed in chapter 1.3 ("Scope of delivery") are included in the delivery (not available on CARDIO LINE 400 MED).

After the machine has been connected to the mains and switched on, the software version is shown on the display. Thereafter the main menu will appear.

The control panel contains the PLUS, MINUS, START and STOP buttons in this order. The big monochrome display is illuminated and shows the elapsed training time (min:s), your present heart rate, the performance in Watts, the speed range (1/min), the speed (km/h, not available on CYCLE 400/407 MED), the distance (m or km) as well as calories burnt.

When you switch on your cardio machine, the main menu will always appear first on the display. The choice "MANUAL" is selected automatically. Press the START-button to confirm this. You are now in the manual mode.

In this mode, you can work out for any amount of time and choose any strain level that pleases you by pressing the PLUS and MINUS buttons. The workout parameters will be displayed for the full training session.

If you would like to end the training session, please press the STOP-button. The training parameters remain on the display. Press the STOP-button again to return to the main menu. The display will also return to the main menu automatically after 2 minutes if no action is carried out.

Danger! For workouts in other modes, please read the detailed instructions.

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4 Destination of the product

4.1 Product lines

In order to meet our customers' desires and to implement technical innovations, ERGOFIT developed the following product lines:

4.1.1 CARDIO LINE 400

The machines of this product line are stationary exercise machines primarily dedicated to train the cardiovascular system. They are especially designed for home use (EN 957 HA). They allow for management, control, and documentation of the workout.

4.1.2 CARDIO LINE 400 MED

The machines of this product line are stationary exercise machines that are designed for precise performance diagnostics in addition to training the cardiovascular system, diagnostics and therapy of cardio-vascular diseases and performance diagnostics in competitive sports. These product lines fulfil medical requirements and therefore need to allow for precise measuring technology besides pure fitness training. Explicit assessment of the results provides optimisation of health training and allow for its continuous documentation. To ensure measuring accuracy, metrological controls need to be carried out on these machines at regular intervals (every second year, in compliance with MPBetreibV).

4.2 Models

All models of the CARDIO LINE 400/400 MED are exercise bike ergometers designed for cardiovascular training. A cyclic kicking movement produces the strain. The training strain is controllable to provide optimal cardiovascular system load. The CYCLE is equipped with various features in order to attain an optimised adaptation to the customer's individual needs.

4.2.1 CYCLE 400

The CYCLE 400 is equipped with a manually controllable programme, a heart rate controlled cardio exercise programme, and 5 predefined profiles as well as the option to exercise in gearshift mode. An external connection (RS 232) is standard equipment on the CYCLE 400.

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4.2.2 CYCLE 407 MED

The CYCLE 407 MED is equipped with a manually controllable programme, a heart rate controlled cardio exercise programme, and 2 predefined WHO-profiles as well as the option to do countdown training in manual or heart rate controlled mode.

4.2.3 CYCLE 450

The CYCLE 450 is equipped with a manually controllable programme, a heart rate controlled cardio exercise programme, several predefined profiles as well as individual user profiles, 3 test programmes and the option to exercise in gearshift mode. An external connection (RS 232) is standard equipment on the CYCLE 450

4.2.4 CYCLE 457 MED

The CYCLE 457 MED is equipped with a manually controllable programme, a heart rate controlled cardio exercise programme, several predefined profiles as well as individual user profiles, 3 test programmes, 2 WHO-profiles that can be modified, the option to do countdown training in manual or heart rate controlled mode. Furthermore, the machine can be controlled by ECG equipment. An external connection (RS 232) is standard equipment on the CYCLE 457 MED.

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5 Transport and set up

5.1 Transport

In order to avoid damage, ERGO-FIT machines are transported by ERGO-FIT GmbH & Co. KG directly or by an authorised freight forwarding company. After delivery, packaging will be collected and disposed of professionally. If ERGO-FIT machines are delivered by a freight forwarder, the customer must dispose of the packaging himself or can send it back to ERGO-FIT GmbH & Co. KG. (The customer is responsible for the transportation costs).

The machines do not have any shipping locks!

To place the CYCLE at the desired location, please consider the following aspects:

1. Position yourself so that you can see the display.
2. Grasp the seat with both hands and slightly lift the machine. You can now roll it easily to the desired position.

5.2 Set up and the right place for set up

Place the mains cable between the casing and the foot frame to protect it against damage during transport.

Move the machine to its future location and mount the foot caps.

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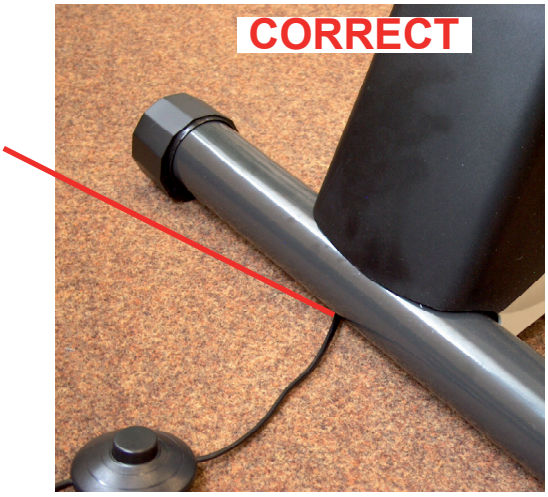
Danger! Mount the foot caps **first** before laying the cable underneath the foot frame: Lay the cable **underneath** the foot frame to the rear end of the machine. Make sure **not** to pinch the cable between the casing and the foot frame or between the casing and the floor!



5.2 Set up and the right place for set-up

- ⊗ Make sure that the surface underneath the machine is level and horizontal.
- ⊗ The adjustable feet underneath the machine are designed to compensate for minor unevenness. Adjust these feet to attain a stable position on the floor and prevent tilting of the machine.
- ⊗ Please make sure the distance between each machine is at least one metre, or you might experience errors of the POLAR heart rate receiver.
- ⊗ High-frequency and magnetic disturbance signals (e.g. radios, TV sets, mobile phones etc.) in close proximity to your cardio machine area may also interfere with the pulse transmission.
- ⊗ In rare cases, strong electromagnetic fields in some locations may interfere with the transmission of the heart rate (e.g. high voltage circuit or tramway contact wires).
- ⊗ In case of interference or if you suspect there is interference with the heart rate transmission, do not, under any circumstances, use the machine for a cardio controlled workout (in CARDIO mode).

Please note that the adjustable feet of the CYCLE are equipped with plastic protection caps. In exceptional cases (e.g. when using strong cleaning agents), this may leave marks or stains on the floor.

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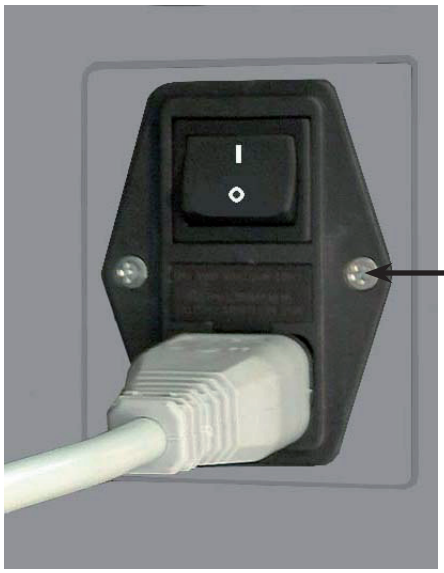
5.3 Ambient temperature

⊗ Your ERGO-FIT exercise machine may be used at an ambient temperature of +10°C to +40°C, a relative humidity of 30 to 70% (non-condensing) and an atmospheric pressure of 700 hPa to 1060 hPa without causing any problems.

⊗ When switched off, the ERGO-FIT machine may be stored at a temperature between -30°C to +50°C.

5.4 Power connection

1. Carry out a visual inspection of the mains connection cable and the connectors (power input module on CARDIO LINE 400 MED only) before starting the machine. Damaged power cords and connectors need to be replaced immediately.
2. Damaged power cords and connectors need to be replaced immediately. Take the mains connection cable and plug it into the appropriate power input module (see figure, CARDIO LINE 400 MED only). Plug the other end of the cable into the mains socket.
3. Switch on your exercise machine by pushing the button located on the power input module (CARDIO LINE 400 MED, I = switch on, O= switch off) or by pushing the foot actuated switch on the power cord (CARDIO LINE 400).



Power input module with mains plug

4. After your exercise machine has been connected to mains and switched on, it automatically carries out an operating check. During this operating check, you will be able to read the software version of the unit on the display. Thereafter the main menu will appear.
5. Stand on the side of the control panel (view onto the display) and check if the

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display works. If this is not the case, make sure you followed the steps above correctly. In addition, verify if there is electricity in the mains socket.

5.4.1 Power supply

Use your exercise machine only on earthed (grounded) mains sockets with 230 V~/50-60 Hz (see chapter A). If you have any doubts about the power supply at the setup location, ask your electricity supplier. Only use customary 10 ampere automatic circuit breakers (type B tripping characteristic). In the rare event that these automatic circuit breakers should switch off when you switch on your machine, the circuit needs to be fused with 10 A lead fuses or with a different type of tripping characteristic. In case of doubt, ask your electrician.

Before connecting your ERGO-FIT exercise machine to your power supply system, compare the data on the type label (next to power input module) on the allowable voltage and grid frequency with your local data.

Always connect your machine directly to the mains socket. Never use extender cables or multi-outlet power strips.

5.4.2 Cabling

If you have connected more than one ERGO-FIT machine to one main switch, please switch each machine on and off individually.

⊗ Install the cable in such a way that no one can step on it or trip over it.

⊗ Do not place any objects on the cable as it might become damaged.

5.5 Potential compensation

To avoid disturbances, a potential compensation cable may be attached to the machine. This potential equalisation is not standard equipment. If required, ask the service to install this feature. In this case, communicate with the service department or the field staff. As some machines are already prepared for the potential compensation feature, on-site installation is possible.

5.5.1 Position of the potential compensation clamp

The potential equalisation clamp is located underneath the front wheel cover.

Never connect the potential compensation line to the water or gas supply line or any other kind of pipe. Always use the appropriate potential compensation connection only.

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5.6 Components

5.6.1 CYCLE 400

1 Seat
2 horizontal seat adjust ment
3 Seat height adjustment
4 Mains cable outlet
5 Pedals
6 Adjustable feet
7 Control panel
8 Display
9 Handlebar *(equiped with electrodes for hand heart rate)*
10 Book support

5.6.2 CYCLE 407 MED

1 Seat
2 horizontal seat adjust ment
3 Seat height adjustment
4 Power input modul
5 Pedals
6 Adjustable feet
7 Control panel
8 Display
9 Handlebar
10 Book support

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5.6.3 CYCLE 450

1 Seat
2 horizontal seat adjust ment
3 Seat height adjustment
4 Mains cable outlet
5 Pedals
6 Adjustable feet
7 Control panel
8 Display
9 Handlebar *(equiped with electrodes for hand heart rate)*
10 Book support

5.6.4 CYCLE 457 MED

1 Seat
2 horizontal seat adjust ment
3 Seat height adjustment
4 Power input modul
5 Pedals
6 Adjustable feet
7 Control panel
8 Display
9 Handlebar
10 Book support

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Please note:
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6 Start-up

6.1 Switch on

⊗ Before switching on your exercise machine (CARDIO LINE 400 MED), make sure the mains plug is connected to the mains socket.

If you have connected more than one machine to one main switch, please switch each machine on and off individually, or technical disturbances may occur if all machines are switched on at the same time.

⊗ Now switch on your machine by pushing the switch located on the power input module. Push the switch into the I-position. The machine is turned off when the switch is in the 0-position (only on CARDIO LINE 400 MED). The CARDIO LINE 400 is switched on by pushing the foot actuated switch.

⊗ The illumination of the display shows you immediately if the machine is switched on.

6.2 Switch off

⊗ Switch off your machine by pushing the switch located on the power input module. To do so, push the switch into the 0-position (CARDIO LINE 400 MED) or by pushing the foot actuated switch (CARDIO LINE 400).

Make sure that the switch on/switch off intervals are longer than 30 s. Otherwise disturbances might occur.

6.3 The right training technique

The optimal load intensity of the user is controlled by the heart rate controlled training according to the ERGO-FIT system. However, you should also take into account biomechanical considerations when training. This chapter provides relevant considerations for the use of exercise bike ergometers.

When exercising with your training machine, make sure not to step on its casing. Stand on the designated surfaces only.

1. Gauge the proper seat height first. The height of the seat is essential for your sitting comfort and especially for the radial runout. To gauge the right seat height, sit on the seat and put one heel on a pedal. In the lowest pedal position, you should be able to extend your leg completely

2.a) CYCLE 400/407: To adjust the seat, stand next to the exercise machine and turn the knob on the seat tube anticlockwise. Now pull the knob out of the punched matrix located on the seat tube until you can move the seat tube. To

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lock the seat at the desired height, let the knob snap into the seat tube again. Lock the seat tube by turning the knob clockwisev.

b) CYCLE 450/457: To adjust the seat height, stand next to the exercise machine and pull the adjustment lever located on the seat tube upwards. The integrated pneumatic spring will automatically lift the seat. To lower the seat, loosen the adjustment lever and push the seat downwards into the desired position with the help of your body weight. To lock the seat at the desired height, bring the adjustment lever back to its initial position.

3. To adjust the seat horizontally, loosen the clamp lever underneath the seat by turning it anticlockwise. Now the seat is continuously adjustable. Lock the seat by turning the clamp lever clockwise.
4. During CARDIO training, make sure the number of rotations is higher than 50 rpm (performance > 25 W); otherwise, the strain of the machine becomes too great. Please look at the speed range (the up arrow on CYCLE 450/457 or the right arrow on CYCLE 400/407 means you should pedal faster whereas the down arrow on CYCLE 450/457 or the left arrow on CYLCE 400/407 asks you to pedal more slowly). The higher the number of rotations, the lower the strain on the joints.
5. Maintain the training position described here for the whole workout.

6.4 The control panel

One of ERGO-FIT's main goals is to produce particularly user-friendly exercise machines. For this reason, all the CARDIO LINE 400/400 MED machines are equipped with a user guidance system that is simple and easy to understand. In addition, all control panels in a series are designed homogenously to provide you with easy use and comfort. Consequently, once you know how to operate one machine, you will know how to operate all the others of the same series.

There are two different types of displays: A small monochrome display (CYCLE 400/407 MED) and a large monochrome display (CYCLE 450/457 MED).

The control panel consists of a display and buttons. Before you take a closer look at the control panel, you should note the following aspects:

1. Do not prop up your body on the control panel or the display to avoid damage.
2. Do not exert pressure on the display.
3. Only press the buttons lightly. The button press is confirmed by a beep.

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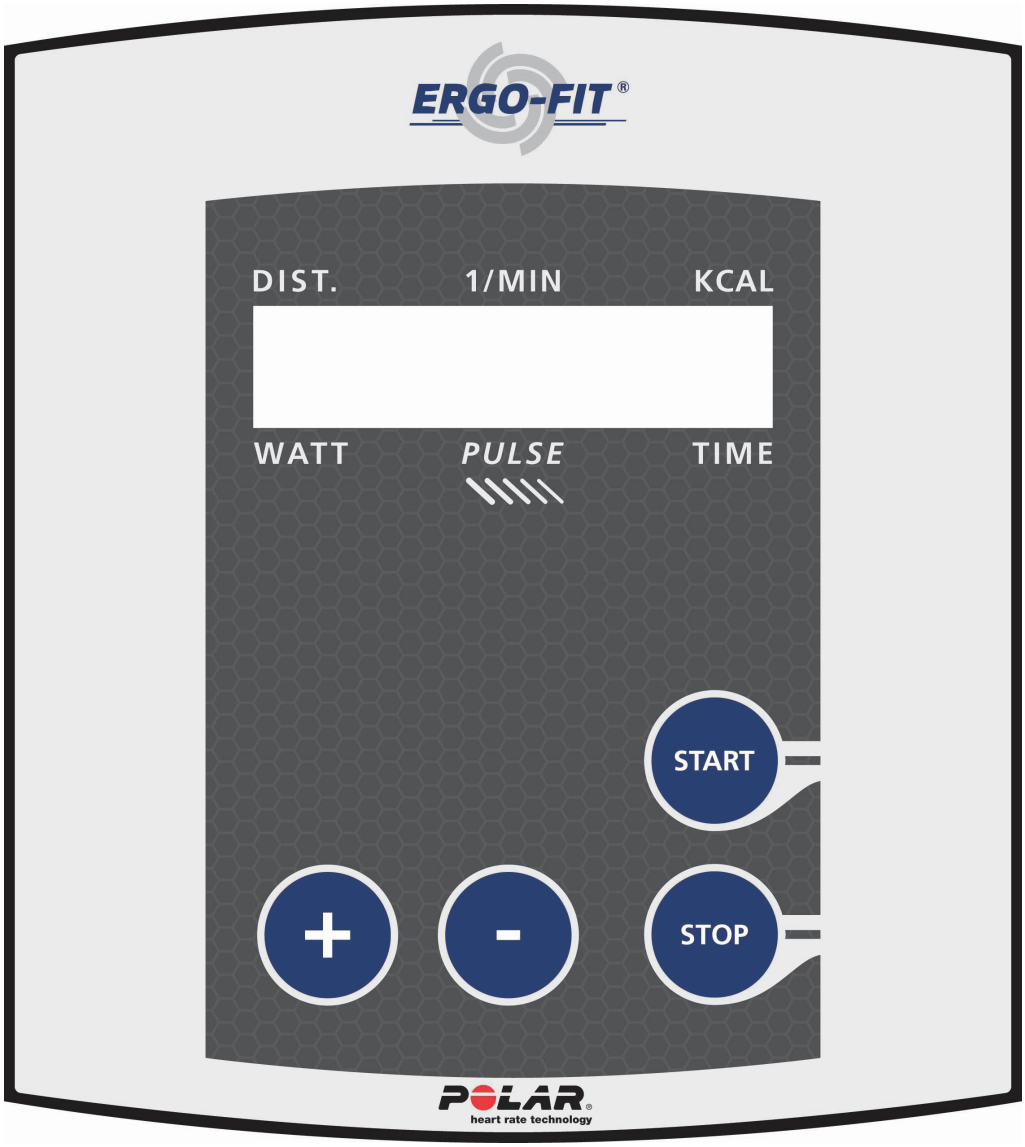
Cockpit CYCLE 400/407 MED (kleine monochrome Anzeige):



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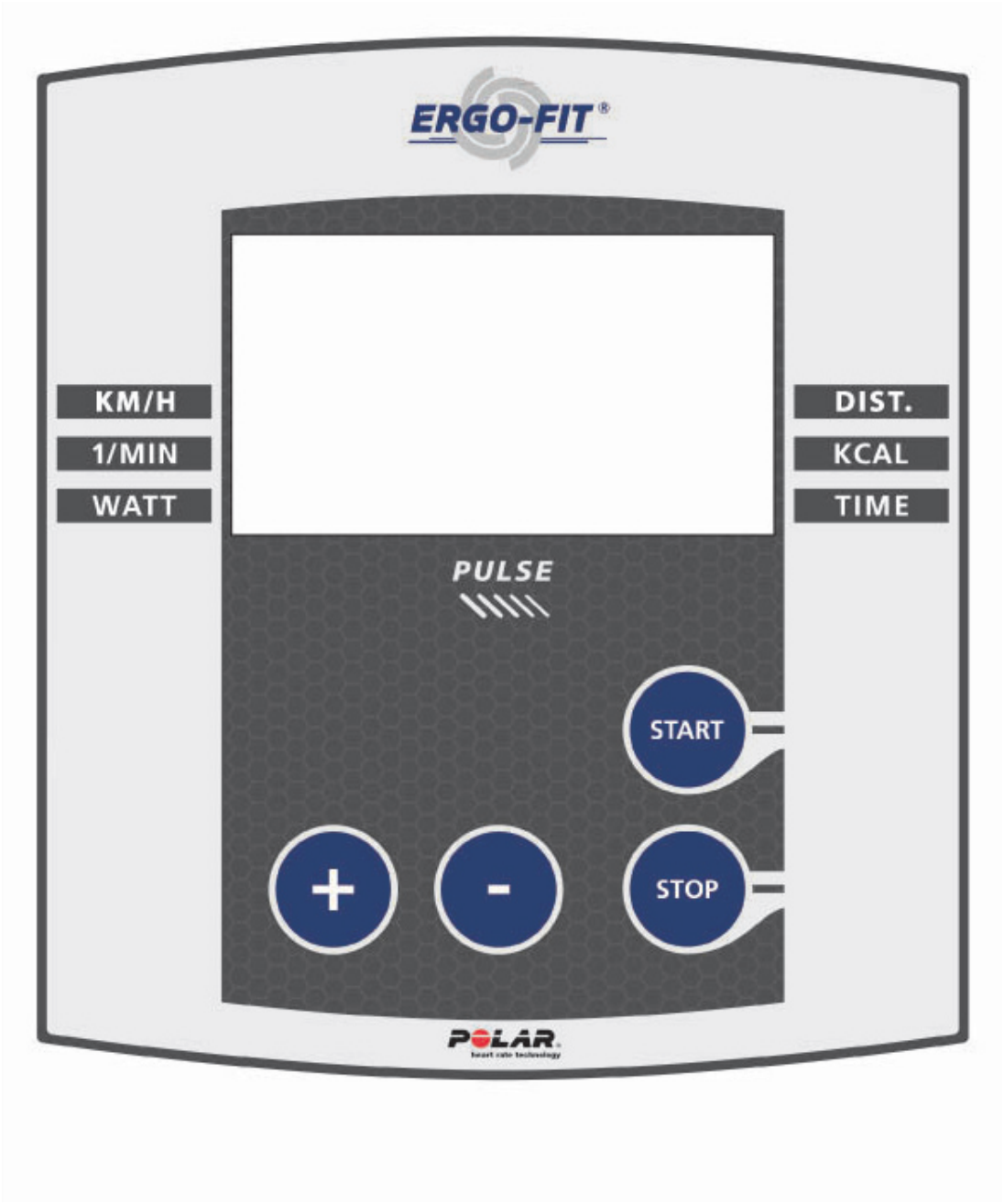
Cockpit CYCLE 450-457 MED (große monochrome Anzeige):



6.4.1 The buttons

The following buttons are installed on the control panel:

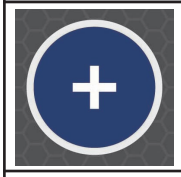
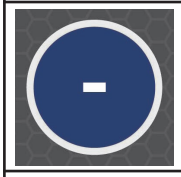
⊗ PLUS-button

⊗ MINUS-button

⊗ START-button

⊗ STOP-button

The button functions are described below:

Button	Function
	Increase the strain or change parameters.
	Decrease the strain or change parameters.
	Change the training mode or confirm set or changed parameters.
	Stop functions or the machine.

6.4.2 The display

The machines of the CARDIO LINE 400/400 MED are equipped with a large (CYCLE 450/457 MED) or a small monochrome display (CYLCE 400/407 MED).

In the section below you will find - depending on the model - information on the displays, measuring units and their meanings.

Training parameters

Model	Display	Meaning	Unit
CYCLE	DIST.	Distance covered	km
	1/MIN	Number of revolutions per minute	1/min
	KM/H*	Speed	km/h
	WATT	Power produced currently	Watt
	KCAL	Calories burnt (average)	kcal
	TIME	Training time	00:00 (min:s)
	PULSE	Current heart rate *with POLAR-sender or hand heart rate(only CYCLE 400/450)*	1/min

* Parameter “KM/H”only CYCLE 450/457 MED

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Please note:
This owner's manual contains information on multiple gym machines.
There may be variations in detail according to the type of machine!

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7 Operation

7.1 Modes of operation

When you switch on your training machine, the main menu and the programme selection will always appear first on the display. The choice "MANUAL" is selected automatically. Push the PLUS and MINUS buttons to change the training mode. Confirm this with START. The following modes can be chosen (depending on the model):

	CYCLE 400	CYCLE 407 MED	CYCLE 450	CYCLE 457 MED
MANUAL	x	x	x	x
PROFILES	x		x	x
CARDIO	x	x	x	x
GEARSHIFT	x		x	
WHO-PROFILES		x		x
COUNTDOWN		x		x
TEST			x	x
ECG-CHOICE				x

To return from the submenu to the main menu, just press the STOP button once or repeatedly.

☞ *Danger! If you have a cardiac pace maker, you should exercise in MANUAL mode only!*

7.1.1 MANUAL

In this mode, you can work out for any amount of time and choose any strain level that pleases you.

1. Push the PLUS/MINUS buttons until the programme MANUAL is selected. Confirm your choice with the START button.
2. You are now entering training mode. You may change the strain intensity in steps of 5 Watts by pushing the PLUS and MINUS buttons. If you want to change the strain intensity substantially, press and hold the PLUS or MINUS button.
3. Stop the training by pressing the STOP button. The training parameters remain on the display. By pushing the STOP-button one more time, you will return to the main menu. The display will also return to the main menu automatically after 2 minutes if no action is carried out.

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In the MANUAL mode, you can choose any minimum/maximum strain you like. The lower/upper strain limit is the following:

Model	Power Range	Steps	Rotational Speed
CYCLE 400	15-400 W *	5 W	20-120 rpm
CYCLE 407 MED	15-400 W *	5 W	20-120 rpm
CYCLE 450	15-400 W *	5 W	20-120 rpm
CYCLE 457 MED	15-400 W *	5 W	20-120 rpm
* Default setting is 25 W; the strain can be reduced to a minimum of 15 W by pushing the MINUS button.			

CYCLE 407/457 MED: Please note that this model does not comply with the standard DIN VDE 0750-238 when used with a strain level below 25 W!

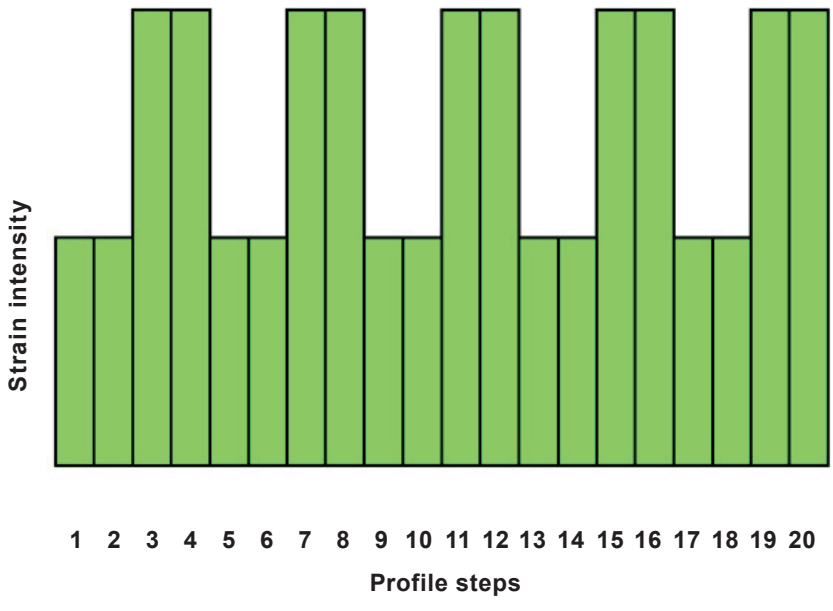
7.1.2 PROFILES

You can choose between performance profiles, gradient profiles (only on CYCLE 450) and heart rate profiles (only on CYCLE 450 and CYCLE 457 MED), depending on the model.

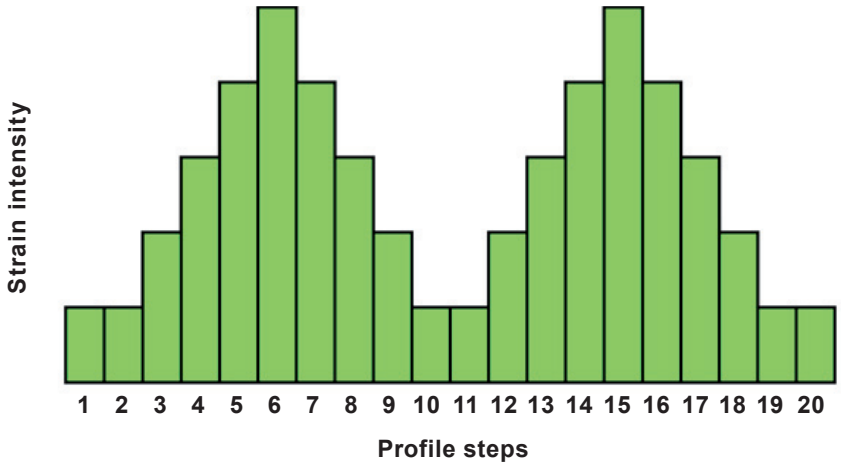
Performance profiles (CYCLE 400, CYLCE 450, CYCLE 457 MED):
Choose between five predefined profiles (P1 - P5) and four individual user profiles (only on CYCLE 450 and CYCLE 457 MED). The profiles differ in their sequences of alternating strain levels, comparable with a hilly landscape.

The 5 predefined profiles (P1 - P5) are:

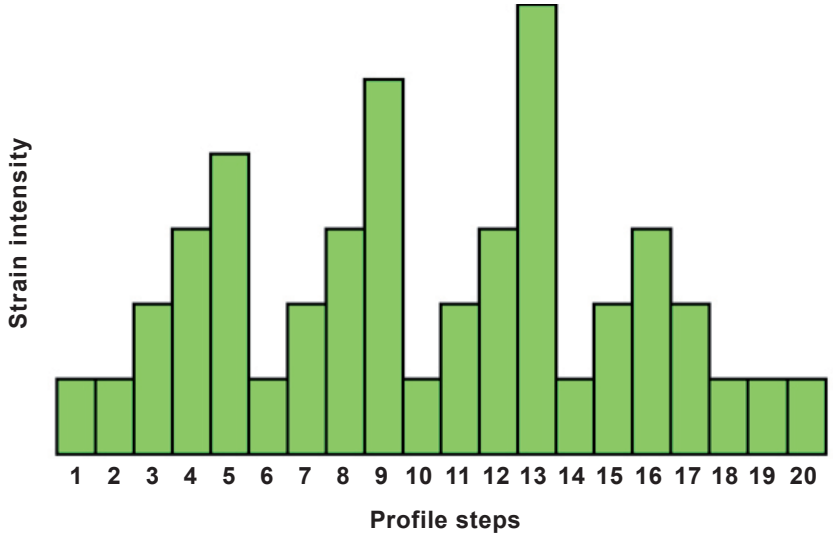
Profile 1:



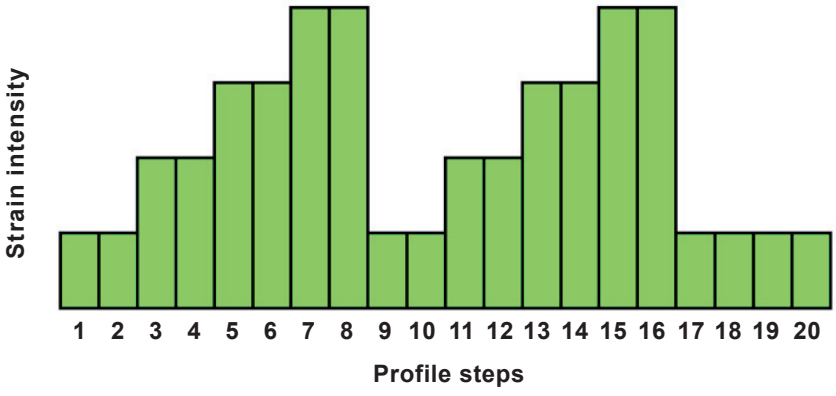
Profile 2:



Profile 3:



Profile 4:



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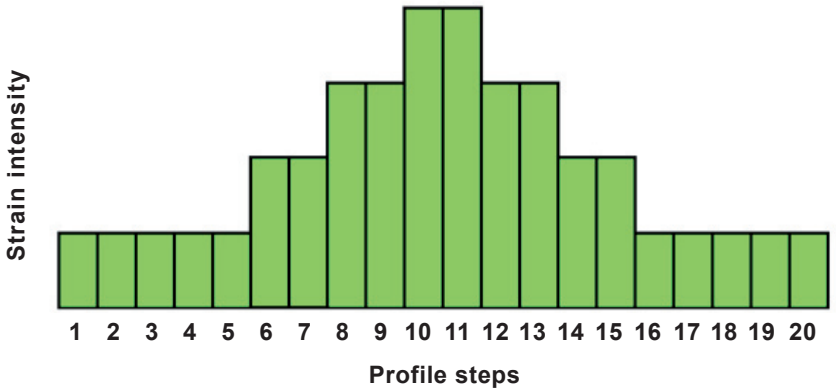
Profile 5:



Gradient profiles (CYCLE 450):
Choose between four individual user profiles.

Heart rate profiles (CYLCE 450, CYCLE 457 MED):
Choose between four individual user profiles.

How to choose a predefined user profile (P1-P5):

1. Push the PLUS/MINUS buttons until the programme PROFILES is selected. Confirm your choice with the START button.
2. In the submenu "PROFILES", choose a profile with the PLUS and MINUS buttons. Confirm your choice with the START button. On CYCLE 450 and CYCLE 457 MED, push the PLUS and MINUS buttons to choose the type of profile first. Confirm this with START.
3. Now you need to determine the maximum strain intensity. Push the PLUS and MINUS buttons to set the strain and confirm with START.
4. Now choose the maximum training time. You can choose different training durations of 10 to 60 minutes by pressing the PLUS and MINUS buttons (default time: 10 minutes). Confirm your choice again with the START button.
5. You are now entering training mode. You can change strain intensity within the limits of the pre-assigned strain intensity range by pushing the PLUS and MINUS buttons at any time.
6. The timing will also be displayed in the profile (in italic letters). The training will stop automatically after the chosen duration has elapsed. You can also stop the training by pressing the STOP button at any moment. On CYCLE 450 und CYCLE 457 MED, the profile distance is repeated until the workout is stopped by pushing the STOP button. In all cases, the training parameters (dist., kcal, km etc.) remain on the display. Pushing the STOP button again will return you

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to the main menu.

How to create a new user profile (A-D):

1. Push the PLUS/MINUS buttons until the programme PROFILES is selected. Confirm your choice with the START button.
2. On CYCLE 450 and CYCLE 457 MED, push the PLUS and MINUS buttons to choose the type of profile first (strain, heart rate, gearshift). Confirm this with START.
3. If you choose "Gearshift", your weight will be asked. Push the PLUS and MINUS buttons to change the preset weight to your body weight and confirm this with START.
4. Now push the PLUS/MINUS buttons until the desired user profile (A-D) is selected. Push the STOP button to open the user profile editor.
5. In the user profile editor, you can set the strain intensity per strain level. Push the PLUS and MINUS buttons to set the strain (default: begin profile step 2). Press the START and STOP buttons for choosing the profile step. Press the STOP button at profile step 1 and then press the START button or press the START button at profile step 20 to enter the menu "Training time”.
6. Now choose the maximum training time. You can choose different training durations of 10 to 60 minutes by pressing the PLUS and MINUS buttons (default time: 20 minutes). Confirm your choice with the START button.
7. If you chose the profile "Heart rate", the cardio parameters will be displayed. Furthermore, you can change the initial strain by pressing the PLUS and MINUS buttons. Confirm your choice with the START button.
8. You are now entering training mode. You can change strain intensity within the limits of the pre-assigned strain intensity range by pushing the PLUS and MINUS buttons at any time. The timing will also be displayed in the profile (in italic letters).
9. On CYCLE 400, the training will end automatically when the chosen duration has elapsed. You can also stop the training by pressing the STOP button at any moment. On CYCLE 450 und CYCLE 457 MED, the profile distance is repeated until the workout is stopped by pushing the STOP button.

7.1.3 CARDIO

For a CARDIO workout (heart rate controlled training) on the machines of the CARDIO LINE 400 MED, you need a chest band with a POLAR sender. This is the only way to measure your heart rate and control the strain automatically. On models of the CARDIO LINE 400 HOME, the heart rate can also be assessed through the hand pulse. The CARDIO mode allows for strain control according to the actual heart rate so that the

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set training heart rate will be maintained during a workout sequence

Users who have a cardiac pace maker or take heart drugs (e.g. beta-blockers) should not exercise in Cardio mode!

Cardio training

You need to set the following parameters before training:
PULSMAX = heart rate upper limit during training
PULSMIN = heart rate lower limit during training
STARTING STRAIN = initial strain at the beginning of the workout

How to proceed when training:

1. Push the PLUS/MINUS buttons until the programme CARDIO is selected. Confirm your choice with the START button.
2. You are in the "CARDIO" submenu. Set the heart rate upper limit first. Modify the default value (100/min) with the PLUS and MINUS buttons (the heart rate lower limit (default: 90/min) will change synchronously). After choosing your individual heart rate upper limit, confirm with START.
3. Now you can modify your heart rate lower limit with the PLUS and MINUS buttons (default: difference of ten beats from the heart rate upper limit. However, a difference of less than 10 beats cannot be chosen because of training relevance). Reconfirm your choice with START.
4. Now set the starting strain for your exercise. Again, use the PLUS and MINUS buttons and confirm with START for this purpose.
5. The display now shows the CARDIO mode. Your current heart rate is assessed. The training starts with the first strain level.
6. Stop the exercise by pressing the STOP button. The training parameters (Watt, 1/min etc.) remain on the display. On the CYCLE 450/457 MED model, the gradient of the heart rate will be shown also. The training sequence is marked by two horizontal lines. On CYCLE 457 MED, the average speed is displayed by pressing the START button. Pushing the STOP button again will return you to the main menu.

7.1.4 GEARSHIFT

In this mode, you can exercise for any amount of time. The integrated gearshift allows you to adjust the strain and thus, to simulate realistic cycling.

1. Push the PLUS/MINUS buttons until the programme GEARSHIFT is selected. Confirm your choice with the START button.
2. Press the PLUS and MINUS buttons to enter your body weight and press the

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START button.

3. You are now entering training mode. In this mode, press the PLUS and MINUS buttons to change the gears at any time and thus, to modify the strain. The change will be displayed for 5 seconds. Furthermore, the gradient can be displayed by pressing the START button. You can modify the gradient settings by pressing the PLUS and MINUS buttons. By pushing the START-button one more time, you will return to the gear selection.
4. Stop the training by pressing the STOP button. The training parameters remain on the display. By pushing the STOP-button one more time, you will return to the main menu. The display will also return to the main menu automatically after 2 minutes if no action is carried out.

☞ If the operational range of the brake is exceeded, an exclamation mark will be displayed next to the performance display. This indicates that the displayed performance does not correspond to the performance on the crank handle. Please modify the speed or the gear to return to the correct performance.

7.1.5 WHO-PROFILES

The WHO profiles are step profiles defined by the World Health Organization (profiles with stepping strain increase). On CYCLE 407 MED, you can choose between the predefined profiles WHO1 and WHO2; on CYCLE 457 MED, the user profile can be set individually

WHO1: 25 W initial strain, increase of 25 W every 2 minutes, recovery strain of 25 W
WHO2: 50 W initial strain, increase of 50 W every 3 minutes, recovery strain of 50 W

Please proceed as follows (CYCLE 407 MED):

1. Push the PLUS/MINUS buttons until the programme WHO-PROFILES is selected. Confirm your choice with the START button.
2. In the submenu, press the PLUS or MINUS button to choose a WHO profile and confirm this with START.
3. You are now in the "WHO PROFILE" training mode. Press the STOP button to stop the strain phase and to proceed to the recovery phase. By pushing the STOP-button one more time, you will return to the main menu.

Please proceed as follows (CYCLE 457 MED):
Start WHO profile (description with data protocol P01; without the data protocol P01, the sequence resting ECG nr. 4 as well as the remote start sequence will not apply 10 seconds before strain change).

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You need to set the following parameters before training:

Initial strain:	Strain of the first strain level [W]
Time:	Duration of each strain step [min]
Strain step:	Intensity of each strain step [W]
Recovery:	Strain in recovery phase [W]

How to create a new user profile (A-D):

1. Push the PLUS/MINUS buttons until the programme WHO-PROFILES is selected. Confirm your choice with the START button.
2. Now push the PLUS/MINUS buttons until the desired user profile (A-D) is selected. Push the STOP button to open the user profile editor.
3. Press the PLUS and MINUS buttons to modify each of the parameters. Press STOP to change to the next parameter. After setting the parameters, confirm this with START. The modified parameters will be saved for other applications.
4. You are now in the training mode. Press the STOP button to stop the strain phase and to proceed to the recovery phase. 10 seconds before the strain step ends, the remote start sequence will be output through the interface.
5. By pushing the STOP-button one more time, you will return to the main menu.

The automatic strain increase in the preset as well as in the individual WHO profiles can be interrupted during operation by pressing the START button. The displayed information changes from ACTIVE to HOLD. In the HOLD mode, the performance can be modified manually with the PLUS and MINUS buttons. If you want to reactivate the automatic strain increase, press the START button again. The display changes from HOLD to ACTIVE. In both modes, you can change from the strain phase to the recovery phase by pressing the STOP button. The display changes to PASSIVE. This allows the doctor to adjust the strain for his patient more precisely than before.

7.1.6 COUNTDOWN

In diesem Modus können Sie nach einer vorher festgelegten Dauer trainieren und dabei die Belastung selbst festlegen. Das Countdown-Training unterscheidet die Programme Manuell- und Cardio-Countdown.

Manual countdown:

1. Push the PLUS/MINUS buttons until the programme COUNTDOWN is selected. Confirm your choice with the START button.
2. Choose the MANUAL programme with the PLUS and MINUS buttons and confirm this with START.
3. Reduce or increase the time to the desired training duration by pressing the PLUS and MINUS buttons. Confirm this with START.

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4. You are now entering training mode. You may change the strain intensity by pushing the PLUS and MINUS buttons at any time.
5. The training will stop automatically after the chosen duration has elapsed. However, you can stop the exercise at any time by pressing the STOP button. The training parameters remain on the display. By pushing the STOP button one more time, you will return to the main menu. The display will also return to the main menu automatically after 2 minutes if no action is carried out.

Cardio Countdown:

1. Push the PLUS/MINUS buttons until the programme COUNTDOWN is selected. Confirm your choice with the START button.
2. Choose the CARDIO programme with the PLUS and MINUS buttons and confirm this with START.
3. Reduce or increase the time to the desired training duration by pressing the PLUS and MINUS buttons. Confirm this with START.
4. Now set the starting strain for your exercise. Again, use the PLUS and MINUS buttons and confirm with START for this purpose.
5. You are now entering training mode. You may change the strain intensity by pushing the PLUS and MINUS buttons at any time.
6. The training will stop automatically after the chosen duration has elapsed. The training parameters remain on the display. By pushing the STOP-button one more time, you will return to the main menu. The display will also return to the main menu automatically after 2 minutes if no action is carried out.

7.1.7 TEST

☞ These tests are step tests. The data resulting from these tests are recommendations only and not suitable for diagnostic purposes!

☞ To carry out a test, a chest band with a POLAR sender is needed. Otherwise, the heart rate cannot be assessed. An assessment of the hand pulse may only be carried out for monitoring purposes!

In the training mode TEST, you can choose from three different test programmes:
Depending on your age, actual fitness or health conditions, you need to choose one of the preset heart rates (130, 150, and 170).

A PWC test is a submaximal test with a preset heart rate:
PWC 130 = heart rate: upper limit of 130, untrained test person of advanced age
PWC 150 = heart rate upper limit of 150, untrained younger test person

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PWC 170 = heart rate upper limit of 170, trained test person

On PWC 130, the initial strain is 25 W; on PWC 150 and PWC 170, the initial strain is 50 W each. The strain increases by 25 W (PWC 130) and by 50 W (PWC 150, PWC 170) every two minutes. An assessment will only be carried out after the set heart rate has been reached and the set strain step has been ended.

The test result will be a Watts/kg value. With this value and the PWC classification table (see Chapter A8 "Test evaluation"), you can assess your actual fitness level.

How to carry out a test:

1. Push the PLUS/MINUS buttons until the programme TEST is selected. Confirm your choice with the START button.
2. You are now within the "TEST" submenu. Choose the desired test programme with the PLUS and MINUS buttons and confirm this with START.
3. Now choose your gender with the PLUS and MINUS buttons and again confirm your choice with START (M= male; F= Female).
4. Press the PLUS and MINUS buttons to enter your age and press the START button.
5. Now enter your body weight. For this purpose, press the PLUS and MINUS buttons (default weight: 70 kg). Confirm this with START.
6. The display now shows the RESTING PULSE ASSESSMENT mode. Your current resting heart rate will be assessed. This takes about 15-20 seconds. Your resting heart rate is displayed.
7. If the assessment is successful, the test will start after a few seconds. The display changes to operating mode and starts with the first strain step.
8. As soon as your heart rate exceeds the set upper limit (130, 150, 170), the test ends automatically after completion of the strain level.
9. The training parameters remain on the display after the test is completed. By pushing the STOP button one more time, you will return to the main menu.

7.1.8 ECG Choice

An external connection (RS 232, serial interface) is standard equipment on the CYCLE 457 MED. The interface cable is not included in the delivery.

Danger! Some ECG devices cannot be connected with the CYCLE 457 MED. Call 0049-633-24610 for more information.

Control of the ergometer by external devices:
Use the interface cable to connect the bike ergometer with the external device (ECG,

PC etc.). Then the correct data protocol needs to be set:

Choosing data protocols:

1. Switch off and on your machine for a restart.
2. Simultaneously press the PLUS and MINUS buttons to open the menu of the serial data protocols.
3. Choose the desired protocol (P01, P02 …) with the PLUS and MINUS buttons and confirm this with START. The protocol will be stored for further applications.

See more details on each data protocol in the annexed sheet "Data protocols".

If the initialisation is received through the interface, the ergometer automatically changes to the operating mode "external control" ("ECG no." and the protocol number will be shown in the middle of the display). It is not necessary to select the menu item. In addition, the recognised control characters will be displayed for checking purposes. Unknown commands will be shown as " / ". Printing is not supported during external control.

If disturbances occur between the ECG device and the bike ergometer, potential compensation can be installed (see Chapter 5.5).

7.2 Behaviour after operation

No special notices need to be observed at the end of the training on a CYCLE model of the CARDIO LINE 400/400 MED. Just stop the training. There is no further risk due to free rolling.

7.3 Function control

Function test: How to proceed:

Brake function

⊗ Switch on the exercise machine. The illumination of the display shows you immediately if the machine is switched on.

⊗ Choose the MANUAL mode and increase the set performance (see Chapter 7.1.1).

⊗ Move the crank handle at the lowest speed range (observe the arrows!). The strain increases. Increase the speed range to its maximum. The strain will decrease. If this is the case, it may be assumed that the operation independent from the rotational speed works fine.

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Heart rate

⊗ Check the function of the heart rate measurement (see chapter 5.2). As you know, heart rate measurement requires the POLAR sender and chest band (use the POLAR sender kit as described in Chapter 7.6).

⊗ Check the function of the heart rate measurement by grasping the hand heart rate electrodes with both hands. The heart rate value is displayed (only on CARDIO LINE 400 HOME). If no heart rate value is displayed, wet your palms and check again.

Other functions

⊗ Make sure that the seat can be adjusted easily.

7.4 Heart rate measurement

For optimal training results, we recommend controlled training by heart rate measurement. In this regard, the POLAR sender allows for constant displaying and monitoring of the heart rate.

7.4.1 POLAR-Gurt und POLAR-Sender

Wet the electrodes (the two rippled rectangular areas on the bottom side) carefully before use. To provide optimal skin contact, you may use a contact gel as it is used in ECG measurements. Adjust the length of the band to have a close but comfortable fit against the skin underneath the chest muscle. The band should not loosen during exercise. Please also make sure that the belt is fastened with the correct side up - the POLAR logo needs to be readable correctly when looking at it. You should also make sure that the two band electrodes are not buckled.

A pulse measurement is only possible if the chest band fits correctly. Otherwise, the

display shows an "E" on the position of the pulse indication (incorrect or no pulse transmission). In this case, please check again the correct fit of the chest band.

The sender (the electrodes in particular) should be cleaned and dried after use with warm water and a mild soap for hygienic reasons. Never brush the electrodes! Do not use alcohol for cleaning!

7.4.2 Operating range of the POLAR sender

The operating range of the sender is approx. 80cm. If you have more than one ERGOFIT exercise machine, make sure to keep a distance of at least 100 cm between them to avoid interference of the senders.

7.4.3 Battery of the POLAR sender

If the heart rate transmission only works within a short distance between the sender and the receiver or not at all after a prolonged operation, it is possible that the sender's battery is depleted (the battery usually lasts for approx. 2500 hours). In this case, please send the sender and the depleted battery to the following address:

POLAR Electro GmbH Deutschland
Am Seegraben 1
D-64572 Büttelborn/Klein-Gerau

Your sender will be returned to you with a new battery at a charge. Do not try to change the battery yourself!

7.4.5 Potential interference

- ⊗ Screens, electric motors
- ⊗ High voltage lines (including tramway contact wires)
- ⊗ Fluorescent tubes in close proximity
- ⊗ Central heating radiators
- ⊗ Other electric devices (e.g. mobile phone)

The problem can usually be addressed by moving the machine a few metres away from the source of interference. In some cases, it is sufficient to change the position of the machine by a few degrees.

If the heart rate is displayed irregularly despite faultless technical conditions, check your heart rate manually. In case of doubt, you should see your doctor.

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Chapter 8: Training

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Please note:
This owner's manual contains information on multiple gym machines.
There may be variations in detail according to the type of machine!

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8 Training

8.1 The effect of training

The demands of today's lifestyle in modern societies are not enough to remain in good conditional shape. Cardiovascular diseases are still the most common cause of death.

This fact should make cardiovascular training a top priority.

All training activities during which the heart rate increases for 15 to 20 minutes or longer are called "aerobic".

8.2 Cardiovascular training

To get the most benefit out of your training, you should be familiar with some training principles.

Your fitness depends to a great extent on your body's ability to provide your muscles with oxygen. Oxygen is the key to the energy stored in the muscles.

Let us take a closer look at some of the factors crucial to this process: The heart and its role as a complex pump is responsible for the smooth blood flow in the body. Regular aerobic training will increase the heart's stroke volume, i.e. it will transport more blood through your body with every beat. Accordingly, the heart works more efficiently not only during training, but also at rest.

When oxygen enters the lungs, it will be mixed with blood in tiny "air sacs", the socalled alveoli. Regular aerobic training will improve the efficiency of the alveoli and thus, more oxygen will enter the bloodstream and be transported to the muscles.

Haemoglobin is the substance of the blood that absorbs the oxygen. Regular aerobic training will increase the part of the haemoglobin in the blood, which in turn allows your muscles to be better supplied with oxygen.

It is a fact that heart diseases are much less common in people who train regularly.

Overall, it may be said that regular training improves the amount of oxygen supplied to the muscles and the risk of heart disease decreases. For this reason, ERGO-FIT cardio exercise machines are used in both gyms and rehabilitation centres.

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8.3 Strain parameters

The intensity of your training programme should be suitable for your heart rate. It can only be assessed by a targeted performance evaluation. Our cardio training machines allow you to check your heart rate constantly even during training.

If you are a training beginner, it is advisable to train in the lower part of your aerobic training zone until your fitness begins to improve.

8.4 Training routine - aspects to be considered

If you exercise for the first time or restart training after a longer break, your training routine should include the following stages (example):

1. **Warm up:** Exercise for five minutes and with little strain to prepare your body optimally for training.
2. **Stretching:** Get off the exercise machine and stretch the muscle groups you are going to target during training.
3. **Main sequence:** Now you are well prepared for the aerobic phase, which should last a minimum of 15 to 20 minutes. Your target is to maintain your heart rate continuously at the correct strain level.

8.5 Weight reduction: the benefits

Most beginners primarily wish to reduce body weight, the adipose tissue. Regular training stimulates the metabolism, which leads to a higher burning of calories, both during training and at rest.

Most beginners get the most aerobic benefit from a strain level of 70 % of the maximum heart rate. Increasing fitness requires an adaptation of training intensity. However, the assumption "The harder the training the greater the progress in fitness" is wrong.

If a certain strain limit is exceeded, the benefits from aerobic training drop dramatically because the body can no longer provide the muscles with oxygen and instead produces large amounts of lactic acid, and this will make us stop training very fast.

A strain level just below the anaerobic threshold enables us to exercise substantially longer. This way, we will burn a lot of fat and simultaneously strengthen our aerobic system optimally.

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8.6 Training tips

During training on our exercise machines, your heart rate should not exceed a certain upper limit. Training in the aerobic range requires us to train below this limit. It can be set according to a doctor's specifications, tests in performance diagnostics or general rules of thumb.

The heart rate upper limit is calculated using the following rule of thumb:

180 - age = Heart rate upper limit

As an example, a 50-year-old man would have a maximum heart rate of 130 beats per minute and a 30-year-old person of 150 bpm etc.

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Chapter 9: Maintenance

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Please note:
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9 Maintenance

All exercise machines used for commercial purposes need to undergo regular a safety inspection/maintenance test.

Regular, thorough care and appropriate maintenance in particular contribute to preserve the value and lifetime of your exercise machine. For this reason, we recommend regular preventive maintenance. Once per week, inspect the casing, seat and its guiding, handlebar and pedals for damage. In case of a damage, have it repaired immediately. These regular inspections are essential for compliance in case of guarantee claims. In case of a malfunction, ERGO-FIT's technicians and engineers are pleased to assist you.

Before switching on the machines, always make sure that mains cable, mains plug, mains socket and power connection units are free from defects.

Immediate maintenance works are to be carried out if:

- ⊗ the machine has undergone extreme mechanical stress (impact, damaged cable, or inappropriate tensile strain),
- ⊗ liquid has entered the machine,
- ⊗ cables, plug-in connectors or casings are damaged,
- ⊗ covers have dropped.

Maintenance of the machine may be carried out by ERGO-FIT's customer service department. A maintenance contract may be concluded also.

9.1 Care and maintenance

During manufacturing of its training machines, ERGO-FIT makes every effort to reduce future maintenance.

In the following chapters, some of the maintenance and verifications are described. You should carry out these tasks regularly.

Switch off and unplug the machine before any maintenance is carried out or the machine is opened.

When carrying out maintenance, consider the following:

- ⊗ This machine requires very little maintenance.
- ⊗ Moving parts need no further oiling or greasing.

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⊗ Once per week, inspect the seat, the handlebar, the pedals, and the casing for damage. If the machine is damaged, have it repaired immediately.

Treadle

⊗ As screws tend to loosen over time, you should check the treadles and pedals after 3 to 5 operational hours for the first time, then every month.

⊗ If a treadle loosens, screw it on again tightly immediately. To do this, remove the black cap from the crankshaft and retighten the screw underneath with a 14mm socket wrench. The pedal can be retightened to the crankshaft with a 15mm open-end wrench.

9.2 Cleaning

Sweat, dust particles and dirt will damage your exercise machine. This can be observed after only a few weeks. Metal and aluminium parts of your machine may alter its surfaces in combination with sweat. For this reason, you should clean your machine daily.

To clean your exercise machine we recommend disinfectant "Ecolab P3-steril" or "Scarabig". This product is available at:

Ecolab Deutschland GmbH
Reisholzer Werftstraße 38-42
Postfach 13 04 06
40554 Düsseldorf
www.ecolab.com

SCARAPHARM chem.-pharm. Produkte GmbH
Wachmannstraße 86
D-28209 Bremen
www.scarapharm.de

During cleaning, consider the following aspects:
Make sure to disconnect the mains plug before opening the control panel or the motor cover!

⊗ Clean your machine with a damp cloth, mild cleaning agent or soap suds only and dry it with a soft cloth.

⊗ Avoid any oiling or greasing of the machine's outside.

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Chapter 10: Troubleshooting

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Please note:
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There may be variations in detail according to the type of machine!

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10 Troubleshooting

Despite the high quality of our ERGO-FIT products, occasional disturbances might occur in rare cases. The target of this chapter is to inform you of the possible causes of these disturbances and to give you the possibility to avoid them. If you assume a technical defect, the machine must no longer be used for safety reasons. If you cleared a defect yourself, it would be very helpful for us if you communicate this defect to us immediately. This allows us to record the failure in the model's documentation file, and this in turn allows for quality improvement.

For safety reasons, unplug the machine before any work is carried out or the machine is opened!

10.1 Identifying the cause of failure

Malfunctions often have a simple cause. However, defective components are sometimes at fault. This chapter provides you with guidelines to resolve possible problems. If the recommendations listed are not successful, please contact our service department immediately. Our service team will be pleased to help you.

Please proceed as follows in case of failure:

The machine does not work (no audible sound when switching on, blank display

- ⊗ The fuse box is located on the machine's power input module. Pull out the fuse box and check if a fuse is defective (CARDIO LINE 400 MED).
- ⊗ Did you use an extension cable or a multi-outlet power strip? Always connect your machine directly to the mains socket.
- ⊗ Check the mains socket. Plug in a different electric device to check the mains socket.
- ⊗ Pull the mains plug out of the mains socket and visually inspect the mains cable.

An error message appears on the display

- ⊗ Write down this message immediately after the appearance of the error message.
- ⊗ Assess the frequency of this error. If yes: when and how often does the error occur?
- ⊗ Check if more electric devices were connected in parallel. If so, which?
- ⊗ Check if a button has been pressed when the error message was displayed.

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- ⊗ If you were not present when the error message was displayed, ask the user about the exact progress of events.
- ⊗ If an error message appears on the display, please ask our service team

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A Appendix

A.1 Customer service

If you cannot correct a malfunction yourself, please get in touch with our customer service.

Service:	Phone:	+49 (6331) 2461-22
		+49 (6331) 2461-23
		+49 (6331) 2461-29
	Fax:	+49 (6331) 2461-55
	Email:	service@ergo-fit.de

Repairs of ERGO-FIT machines are carried out by highly qualified and competent service technicians. Only original spare parts are used for repairs.

A.2 Spare parts

Spare parts and current exploded views are available from ERGO-FIT's service department:

Service:	Phone:	+49 (6331) 2461-22
		+49 (6331) 2461-23
		+49 (6331) 2461-29
	Fax:	+49 (6331) 2461-55
	Email:	ersatzteile@ergo-fit.de

When ordering, please provide the following information:

- ⊗ Model
- ⊗ Serial number
- ⊗ Name of the spare part
- ⊗ Number of the spare part

Please refer to the drawings and tables on page 69 ff. to find the correct number and name of the spare part!!

A.3 Technical specifications

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A.3.1 CARDIO LINE 400

This chapter provides the technical specifications for your cardio exercise machine. The specifications are listed in separate charts for each model of the CARDIO LINE 400 series.

Model	CYCLE 400	CYCLE 450
Supply voltage 48-60 Hz	220 - 240 V~	220 - 240 V ~
Safety standard	DIN EN 60335-1	DIN EN 60335-1
Device standard	EN 957 HA	EN 957 HA
Protection class	II	II
Tested for use in	Home use	Home use
Accuracy	10%, EN 957 HA	10%, EN 957 HA
Brake system	Eddy current brake	Eddy current brake
Moment of internia	11 +/- 2 kg·m²	11 +/- 2 kg·m²
Dimensions in cm (L/W/H)	105/50/130	105/50/130
Weight	approx. 45 kg	approx. 45 kg
Speed range	20 - 120 l/min	20 - 120 l/min
Power range	15 -400 W	15 -400 W
Steps	5 W	5 W
Trainig programmes	MANUAL, PROFILES, CARDIO, GEARSHIFT	MANUAL, PROFILES, CARDIO, GEARSHIFT, TEST
Test programmes	-	PWC 130, PWC 150, PWC 170
Display parameters	WATT, PULSE, TIME, KM/H, DIST., I/MIN, KCAL	WATT, PULSE, TIME, KM/H, DIST., I/MIN, KCAL
POLAR heart rate measuring	1 channel, acuracy of ECG	1 channel, acuracy of ECG
Heart rate dependent strain control	with POLAR sender or hand pulse	with POLAR sender or hand pulse
Control	depending on training mode	depending on training mode
Max. body weight	180 kg	180 kg
Interfaces	RS 232	RS 232

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A.3.2 CARDIO LINE 400 MED

This chapter provides the technical specifications for your cardio exercise machine. The specifications are listed in separate charts for each model of the CARDIO LINE 400 MED series.

Model	CYCLE 407 MED	CYCLE 457 MED
Supply voltage 48-60 Hz	220 - 240 V~	220 - 240 V ~
Safety standard	DIN EN 60601-1	DIN EN 60601-1
Device standard	DIN VDE 750-238	DIN VDE 750-238
Protection class	I	I
Tested for use in	Medical therapy	Medical therapy
Accuracy	5%, DIN VDE 750-238	5%, DIN VDE 750-238
Brake system	Eddy current brake	Eddy current brake
Moment of internia	11 +/- 2 kg·m²	11 +/- 2 kg·m²
Dimensions in cm (L/W/H)	105/50/130	105/50/130
Weight	approx. 55 kg	approx. 55 kg
Speed range	20 - 120 l/min	20 - 120 l/min
Power range	15 -400 W	15 -400 W
Steps	5 W	5 W
Trainig programmes	MANUAL, PROFILES, CARDIO, COUNTDOWN	MANUAL, PROFILES, WHO-PROFILES, TEST, CARDIO, COUNTDOWN, ECG SELECT
Test programmes	-	PWC 130, PWC 150, PWC 170
Display parameters	WATT, PULSE, TIME, KM/H, DIST., l/MIN, KCAL	WATT, PULSE, TIME, KM/H, DIST., l/MIN, KCAL
POLAR heart rate measuring	1 channel, acuracy of ECG	1 channel, acuracy of ECG
Heart rate dependent strain control	with POLAR sender	with POLAR sender
Control	depending on training mode	depending on training mode
Max. body weight	180 kg	180 kg
Interfaces	RS 232	RS 232

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A.4 Electromagnetic transmission and interference immunity

Electromagnetic transmission

Products made by ERGO-FIT are designed for use in the environments listed below. Please make sure to use the product in the appropriate environment.

Measurement of emitteed interference	Compliance	Electromagnetic enivronment
HF emission in compliance with CISPR11	Group 1	The product uses HF energy for internal function only. For this reason, HF emission is very low and therefore, interference with adjacent electronic devices is unlikely
HF emission in compliance with CISPR11	Class B	
Emission of harmonics in compliance with IEC 61000-3-2	not applicable	
Emission of harmonics in compliance with IEC 61000-3-3	not applicable	

Electromagnetic interference immunity for non-life support devices

Products made by ERGO-FIT are designed for use in the environments listed below. Please make sure to use the product in the appropriate environment.

Interference immunity test	IEC 60601 test level	Compliance level	Electromagnetic enivronment
Conducted HF disturbance in compliance with IEC 61000-4-6	3 Veff 150 kHz upto 80 MHz		
Conducted HF disturbance in compliance with IEC 61000-4-6	3 V/m 80 MHz upto 2.5 GHz		

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Electromagnetic interference immunity CARDIO LINE 400/400 MED

Products made by ERGO-FIT are designed for use in the environments listed below. Please make sure to use the product in the appropriate environment.

Inerference immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment
Discharge of static electricity in comliance with IEC 61000-4-2	+/- 6 kV contact discharge +/- 8 kV contact discharge	6 kV 8 kV	Floors should be made of wood, concrete or laid with ceramic tiles. If the floor is laid with synthetic materials, the relative humidity must be greater than 30 %.
Electrical fast transient bursts in compliance with IEC 61000-4-4	+/- 2 kV for mains cable +/- 2 kV for lead in and lead out	2 kV	The quality of the supply voltage should conform to a typical business or hospital environment.
Surge voltages in compliance with IEC 61000-4-5	+/- 1 kV opposed-mode voltage +/- 2 kV common voltage	2 kV	The quality of the supply voltage should conform to a typical business or hospital environment
Voltage dips, shortterm loss and fluctuations of the supply voltage in compliance with IEC 61000-4-11			The quality of the supply voltage should conform to a typical business or hospital environment.
Magnetic field induced by supply frequency (50/60 Hz) in compliance with IEC 61000-4-8			The magnetic fields induced by the supply frequency should conform to typical values as they can be found in a typical business or hospital environment.

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Recommended protective distances between portable as well as mobile HF telecommunication devices and the ERGO-FIT product

Products made by ERGO-FIT are designed for operation in an electromagnetic environment where HF disturbances are controlled. To avoid electromagnetic interference, make sure to maintain the minimum distance between portable as well as mobile HF telecommunication devices and the ERGO-FIT product - depending on the output power - as indicated below.

Power output of the sender / W	**Protective distance depending on transmission frequency / m**		
	150 kHz to 80 MHz d = 3,5/V1*sqrtP	150 kHz to 80 MHz d = 3,5/E1*sqrtP	150 kHz to 80 MHz d = 7/E1*sqrtP
0,01	0,12	0,12	0,23
0,1	0,37	0,37	0,74
1	1,17	1,17	2,33
10	3,69	3,69	7,38
100	11,67	11,67	23,33

For senders whose maximum nominal output is not listed in the table shown above, the recommended protective distance d (in metres) may be calculated by using the equation belonging to the respective column, whereas P is the maximum nominal output of the sender (in Watts) indicated by the manufacturer of the sender.

Please note:

⊗ With 80 MHz and 800 MHz, the higher frequency range is applied.

⊗ These guidelines may not be applicable in all cases. The propagation of electromagnetic parameters is influenced by absorption and reflection of buildings, objects and persons.

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A.5 Safety regulations

A.5.1 Safety instructions

To protect the user, the Verband Deutscher Elektrotechniker e.V. (VDE, German electrical engineering technician association) published special instructions for electromedical devices and rooms used for medical purposes.

According to these instructions, devices connected to the grid must be equipped not only with a reliable insulation of live parts but also with an additional protective measure to protect the user against the transfer of the supply voltage to touchable metal parts. For this purpose, VDE subdivides so-called protection classes.

Of the protection classes allowed for electromedical devices, in most cases protection class I (protective measures with protective earth conductor) as well as protection class II (protective measures without protective earth conductor but double insulation) are used:

In protection class I devices, metal casing parts are connected with the protective earth conductor of the grid through its earthing contact. In case of insulation failure, the upstream circuit breaker will close the circuit.

The CYCLE models of the CARDIO LINE 400 are classified as protection class II devices. The CYCLE models of the CARDIO LINE 400 MED are classified as protection class I devices.

In the user's environment, parts of non-medical electric devices, which are touchable after removing covers, connection devices etc. during routine maintenance, must operate with a tension not exceeding 25 Volts of alternating current or 60 Volts of direct current. In addition, the tension of the power supply must be produced by a separate power source as described in IEC 601-1.

In this case, such a part of the device and the user must not be touched simultaneously.

The use of electromedical devices is restricted to safety-relevant innocuousness taking account of the state of the art, health and safety regulations and accident prevention. Protective measures must be taken to avoid both direct and indirect contact. Covers, coatings, insulation of energized parts in combination with protective measures using protective earth conductors (in compliance with protection class I), melting fuses as well as the observation of distances between devices are all part of this.

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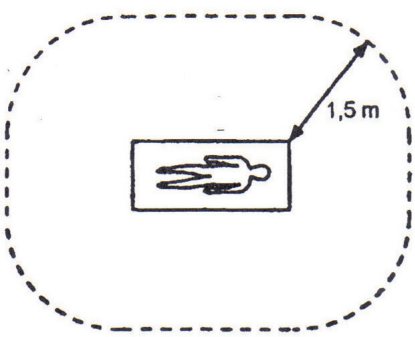
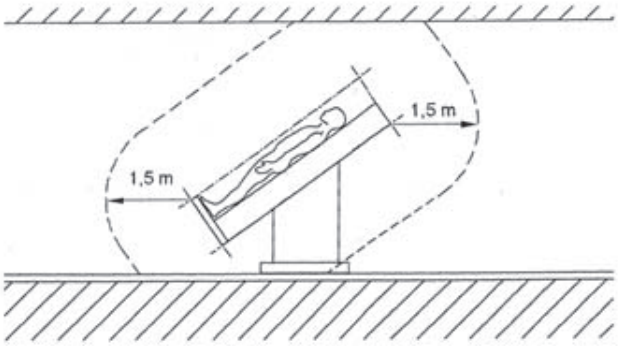
The distance to be maintained is 1.5 metres as a practical value. With this distance, two training devices cannot be connected conductively by a person and it is unlikely that users will receive an electric shock while training.





The instructions given in this chapter refer to the safety model as it is recognised in Germany. These instructions may vary in other countries.

A.5.2 Mark of conformity

The CE mark attached to the cardio machine (CYCLE 407/457 MED only) refers to the EMC conformity (electromagnetic conformity in compliance with EMC Directive 2004/108/EC, Medical Device Directive 93/42/EEC as well as Low Voltage Directive 2006/95/EC). The CE mark attached to the cardio machine (CYCLE 400/450 without MED) refers to the EMC Directive 2004/108/EC and the Low Voltage Directive 2006/95/EC. The tests are based on interference emission and interference immunity parameters.

The ERGO-FIT exercise machines of the CARDIO LINE 400 MED are manufactured in accordance with the strictest safety and quality standards and are designed for commercial use.

The CYCLE models of the CARDIO LINE 400 series are manufactured in compliance with the guideline 2004/108/EEC (EMC), the requirements of the standards EN 957 and EN 60335-1 and are designed for home use.

The CYCLE models of the CARDIO LINE 400 MED series are manufactured in compliance with the guidelines 93/42/EEC (MDD) and 2004/108/EC (EMV) as well as the requirements of the standards EN 957, DIN VDE 750-238, EN 60601-1 and EN 60601-1-2.

Furthermore, all CYCLE models of the CARDIO LINE 400/400 MED are subjected to the standard DIN 62304.

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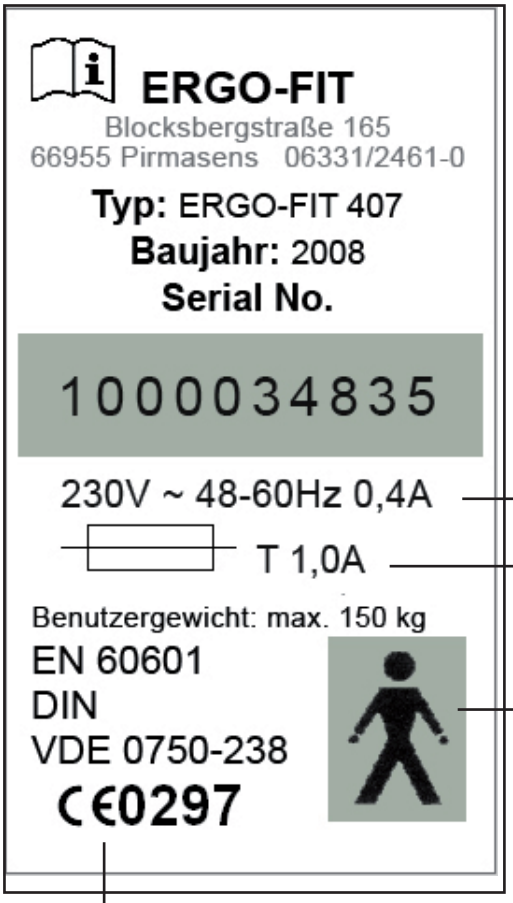
The type label on the device contains the information as shown in the drawing below (example taken from CYCLE 407 MED):



Mains supply values

Fuse model

Type B

CE mark (for medical devices with notified body CE 0297)

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A.5.4 Pictographs

The pictographs used on ERGO-FIT devices comply with the standards IEC 417 and IEC 878.

The following pictographs are used:

Alternating current

Earthing terminal

Earthing

Potential compensation

Devives of protection class II

Danger! See accompanying documents

OFF (Power supply, connection with the grid)

ON (Power supply, connection with the grid)

Device of type B

Device of type BF

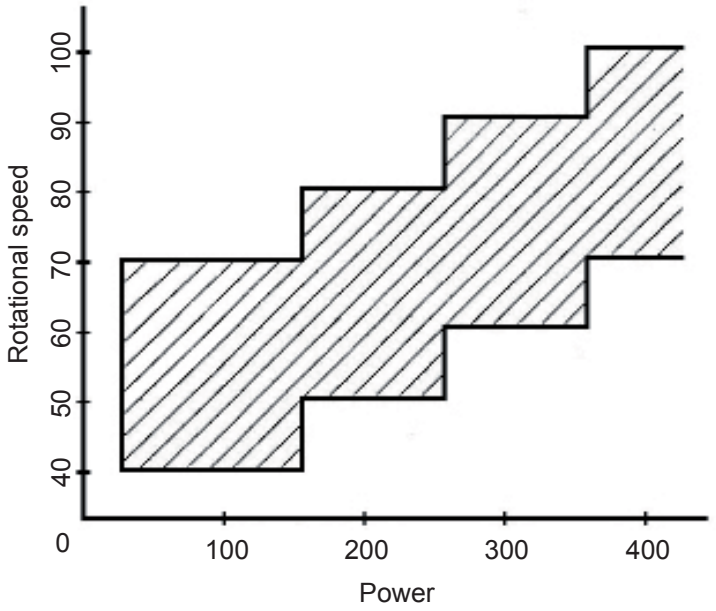
Dangerous electric tension

A.6 Error margins

The following error margins are valid for the CYCLE models of the CARDIO LINE 400 MED series in compliance with the standard DIN VDE 750-238:

1. The read-out error of the wattage p must not exceed ± 5% of the displayed value. However, the read-out error is not required to fall below ± 3W.
2. The read-out error of the rotational speed n is set to a maximum of ± 2 min-1 above 40 min-1.
3. The measuring device to assess the output calculated on the base of deceleration torque and the rotational speed of the treadle ergometer must not exceed an error margin of 1 %..

The characteristic curve family of the deceleration torque control's work capacity can be assessed from the following figure:



The work capacity is shown on the display as follows:

Devices in compliance with	VDE 750-238	EN 957
As shown right to the rotational speed (CYLCE 450/457) **As shown right/left to the rotational speed (CYCLE 400/407)**		
none	5% range	10% range
Points	10% range	10% range
Arrows	Deviation > 10%	Deviation > 10%

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A.7 Warranty clauses

Warranty of 2 years (cf. general business conditions)

The seller shall be liable, to the exclusion of other liability, for deficiencies of the delivery, of which the absence of expressly affirmed properties is part, as follows:

1. All parts that are found to be unusable or restricted in use in consequence of a circumstance dated before the transfer of risk - notably because of faulty design, bad manufacturing material or faulty workmanship - shall be repaired or replaced during a period of 24 months after delivery. The decision if the fault will be repaired or should be replaced will be at the seller's discretion. The supplier shall only be liable for deficiencies of drawings and materials delivered or chosen by the seller if he would have been able to recognise the deficiency when applying professional accuracy unless the seller notified the purchaser of the recognised deficiency immediately.

2. The purchaser's right to claim ends in all cases after 24 months after transfer of the object.

3. No guarantee shall be assumed for damage as a result of inappropriate or improper use, faulty assembly or faulty startup carried out by the purchaser or a third party, natural wear, faulty or careless handling, inappropriate equipment or exchange work material, faulty construction works, chemical, electrochemical or electric influences, except in the event that they can be traced to the fault of the seller. The purchaser will assume all risks in connection with the delivery, even in case of free freight ex-factory.

4. Initially, the seller has the right to two rectifications or replacements. Should these fail, the purchaser has the right of abatement or rescission within the scope of valid legislation. The seller will have a period of six weeks as from communicating the notice of defect for rectification.

5. Improper modifications or repairs carried out on behalf of the purchaser or a third party without prior permission of the seller will abrogate warranty claims.

6. If goods are exported, warranty will be restricted to the availability of loose spare parts ex-factory within the warranty period. Packing costs, freight charge and labour will be at the expense of the purchaser. In case the purchaser demands on-site repair by a technician of the factory or another service address, the purchaser will assume the costs of travelling expenses and labour.

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7. All merchandise that has not been produced by the seller is subject to legal provisions.

Wear parts are excluded from warranty specifications, e.g.:

⊗ pedal string
⊗ handle bar tube
⊗ seat
⊗ toothed belt
⊗ chains
⊗ lever to fasten the handle bar
⊗ pedals
⊗ seat, tread, handle bars
⊗ fuses

The warranty is voided if maintenance instructions are not observed!

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A.8 Test evaluation

PWC 130	m	f	PWC 150	m	f	PWC 170	m	f
1	0,27	0,21	1	0,33	0,27	1	0,39	0,32
2	0,53	0,42	2	0,67	0,53	2	0,78	0,64
3	0,80	0,63	3	1,00	0,80	3	1,17	0,97
4	1,07	0,84	4	1,33	1,07	4	1,56	1,29
5	1,33	1,07	5	1,67	1,33	5	1,94	1,61
6	1,60	1,27	6	2,00	1,60	6	2,33	1,93
7	1,87	1,48	7	2,33	1,87	7	2,72	2,26
8	2,13	1,69	8	2,67	2,13	8	3,11	2,58
9	2,40	1,90	9	3,00	2,40	9	3,50	2,90
10	2,67	2,11	10	3,33	2,67	10	3,89	3,22
11	2,93	2,32	11	3,67	2,93	11	4,28	3,54
12	3,20	2,53	12	4,00	3,20	12	4,67	3,87
13	3,47	2,74	13	4,33	3,47	13	5,06	4,19
14	3,73	2,96	14	4,67	3,73	14	5,44	4,51
15	4,00	3,17	15	5,00	4,00	15	5,83	4,83
16	4,27	3,38	16	5,33	4,27	16	6,22	5,16
17	4,53	3,59	17	5,67	4,53	17	6,61	5,48
18	4,80	3,80	18	6,00	4,80	18	7,00	5,80

The classification in fitness level 9 corresponds to a "very good" fitness. An Olympic champion would have a fitness level of 18.

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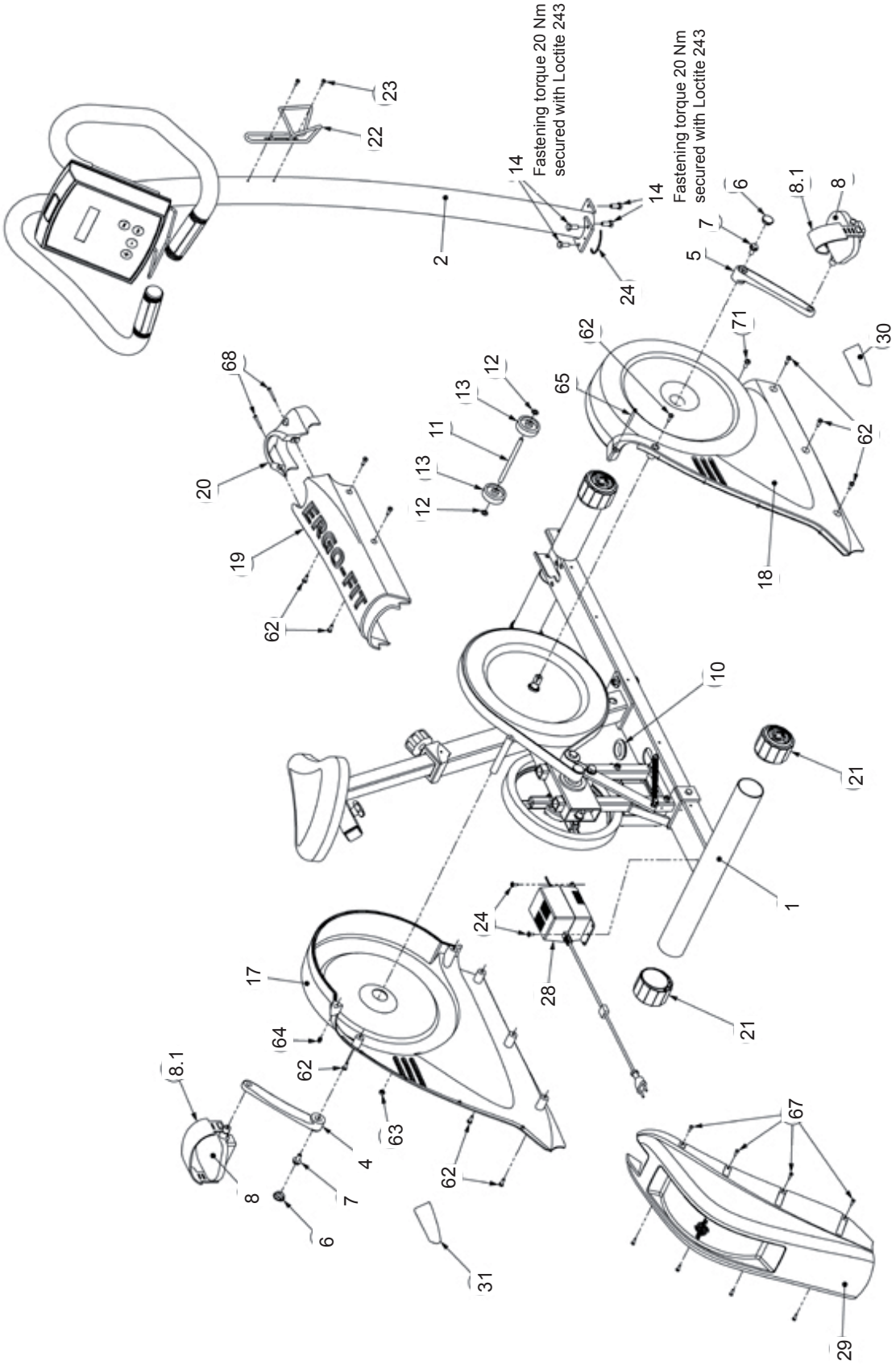
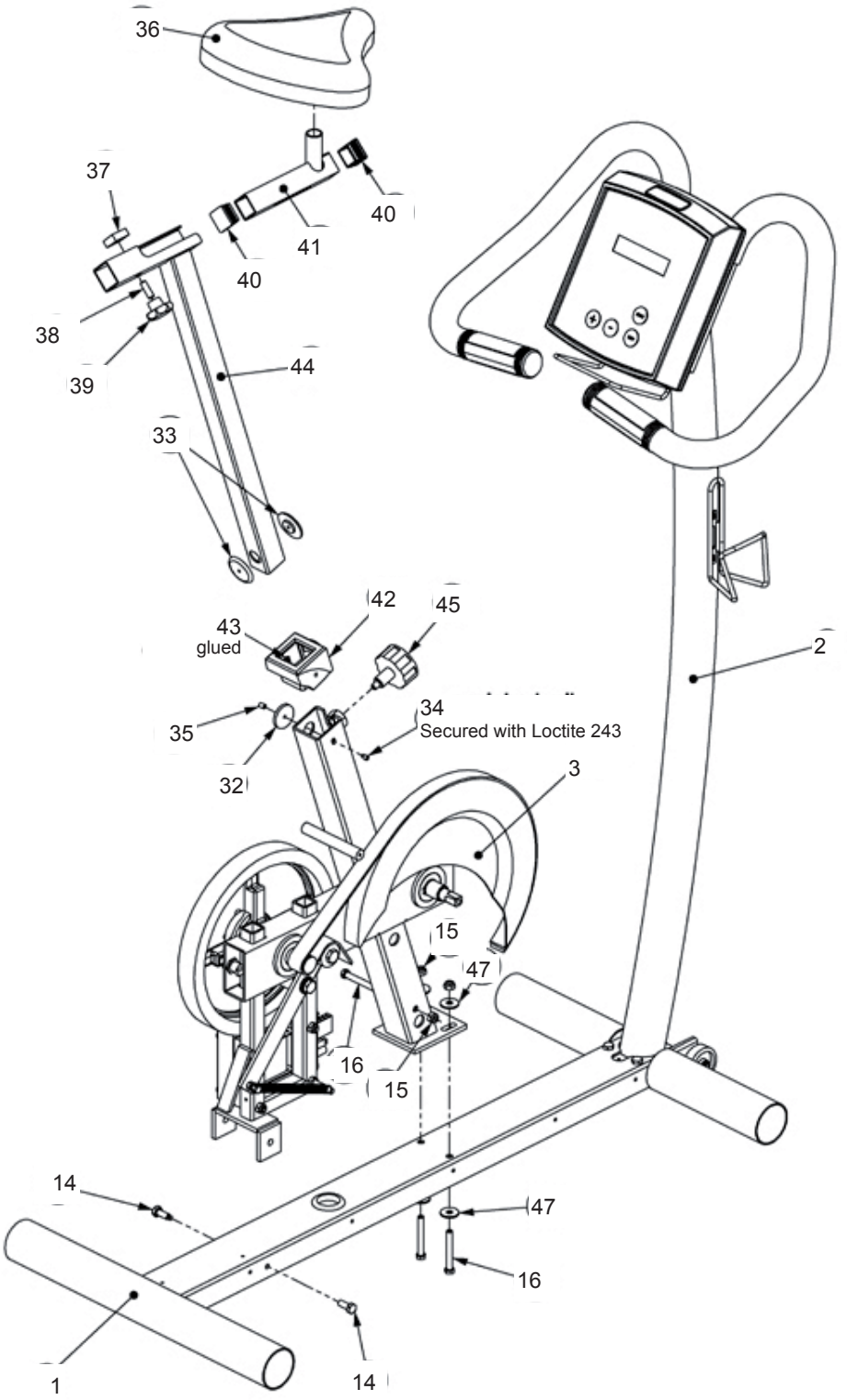
zu A.2 Spare parts

A.2.1 CYCLE 400





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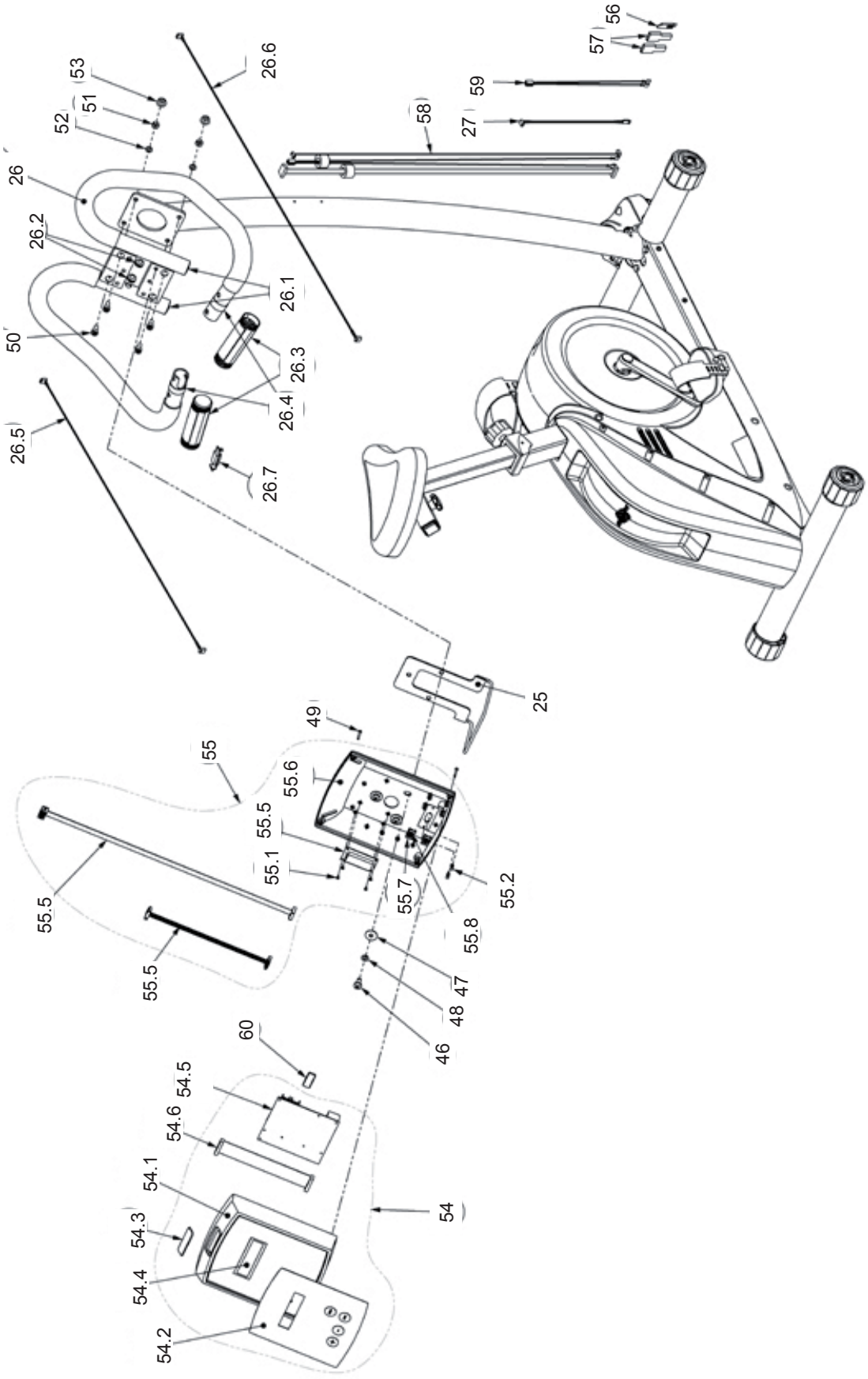
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Item	Part name	Spare part no.
1	Foot frame (welded)	340023F
2	Neck tube (welded)	340024F
3	Brake unit compl. (see separate spare part list)	340013G
4	Left crank handle	15253
5	Right crank handle	15254
6	Cab clips	15241
7	Screw with captive washer DIN 933 M8x1x18 (10.9)	15242
8	Pedals (1 pair)	15080
8.1	Pedal strings long (1 pair)	15172
10	Cable grommet	16194
11	Roller axle	340046F
12	Mounting cab D8	14020
13	Polyamide wheel	22014
14	Hexagon svrew DIN 933 M8x20	10077
15	Hexagon nut DIN 958 M8 self-locking	12038
16	Hexagon screw DIN 931 M8x60	10055
17	Left side cover	340.063.KT
18	Right side cover	340.064.KT
19	Access cover part 1	340.065.KT
20	Access cover part 2	340.066.KT
21	Foot	340.068.KT
22	Bottle holder	19020
23	Tread forming screw DIN 7500 M4x12	10476
24	Edge protection (55mm long))	16100
25	Book support (welded))	027287F
26	Handlebar for hand pulse	340071G
26.1	Lamella plug D32	16241
26.2	Grommet	92009
26.3	Hand pulse 1,25 Inches (bored)	340073F
26.4	Tesa-Moll foamed plastic (100mm long))	99019
26.5	Hand pulse cable, left side	525729
26.6	Hand pulse cable, right side	525730
26.7	Hand pulse printed circuit 400 series	525734E
27	Pulse cable	525611
28	Power supply unit, unregulated, euro plug + foot switch	63024
29	Rear cover	340.062.KT
30	Label 400 right side	40216
31	Label 400 left side	40215
32	Pad D34,5x7	340.047.KT
33	Pad D43x7	340.018.KT
34	Headless setscrew DIN 915 M6x10	11072
35	Cylindrical pin DIN 913 M6x10	11065
36	Seat, wide	18030
37	Seat adjustment clamp	340058F
38	Setscrew DIN 913 M8x25	11063

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Item.	Part name	Spare part no.
39	Star knob DIN 6336 M8	24041
40	Lamella plug 30x30x2	16039
41	Seat adjustment (welded)	340.057.KT
42	Seat tube cover	340.049.KT
43	Hexagon nut DIN 439 M6	12000
44	Seat tube (welded)	340.051.KT
45	Handle with plunger (M16x1,5)	24054
46	Thread forming screw DIN 7500 M8x20	10475
47	Fender washer DIN 9021 D8,4	13021
48	Spring lock washer DIN 127 D8	13004
49	EJOT DELTAPT screw D3x25	10461
50	Cheese head screw DIN 912 M8x16 (12.9)	10331
51	Hexagon nut DIN 934 M8	12009
52	Retaining washer (Schnorr) D8	13161
53	Cap M8 SW13	16144
54	Control panel Cycle 400	525727G
54.1	Control panel small display	027.235.KT
54.2	Touch sensitive membrane keyboard	027240E
54.3	Cover RAL 7021	027.269.KT
54.4	LCD 400/407	525733E
54.5	Printed circuit 400	525722E
54.6	LCD connector cable (30cm)	61034
55	Control panel bottom part with RS232	525738E
55.1	EJOT DELTAPT screw D2,5x7	10462
55.2	Locking screws 1 set	75002
55.3	Cable RS 232	525528
55.4	Card reader (treadmill) cable	525.474
55.5	Printed circuit RS 232	525.483
55.6	Control panel bottom part A Bike	234139G
55.7	Screw base	77001
55.8	EJOT DELTAPT screw D4x8	10465
56	2-pole double pin case	87107
57	3-pole blade terminal 6,3	87065
58	Cable harness	525728
59	12V-conduction	61098
60	Eprom 3000/3000 S	525732
61	Pan head screw M4x12	10208
62	Thread forming screw DIN 7500 M5x20	10483
63	Hexagon nut DIN 934 M6	12007
64	Self-tapping threaded bushing M5	12075
65	Countersunk DIN 965 M5x50	10492
66	Raised cheese head screw DIN 7985 M6x16	10491
67	Sheet metal screw 3,9x19	10489
68	Sheet metal screw 3,9x19	10488

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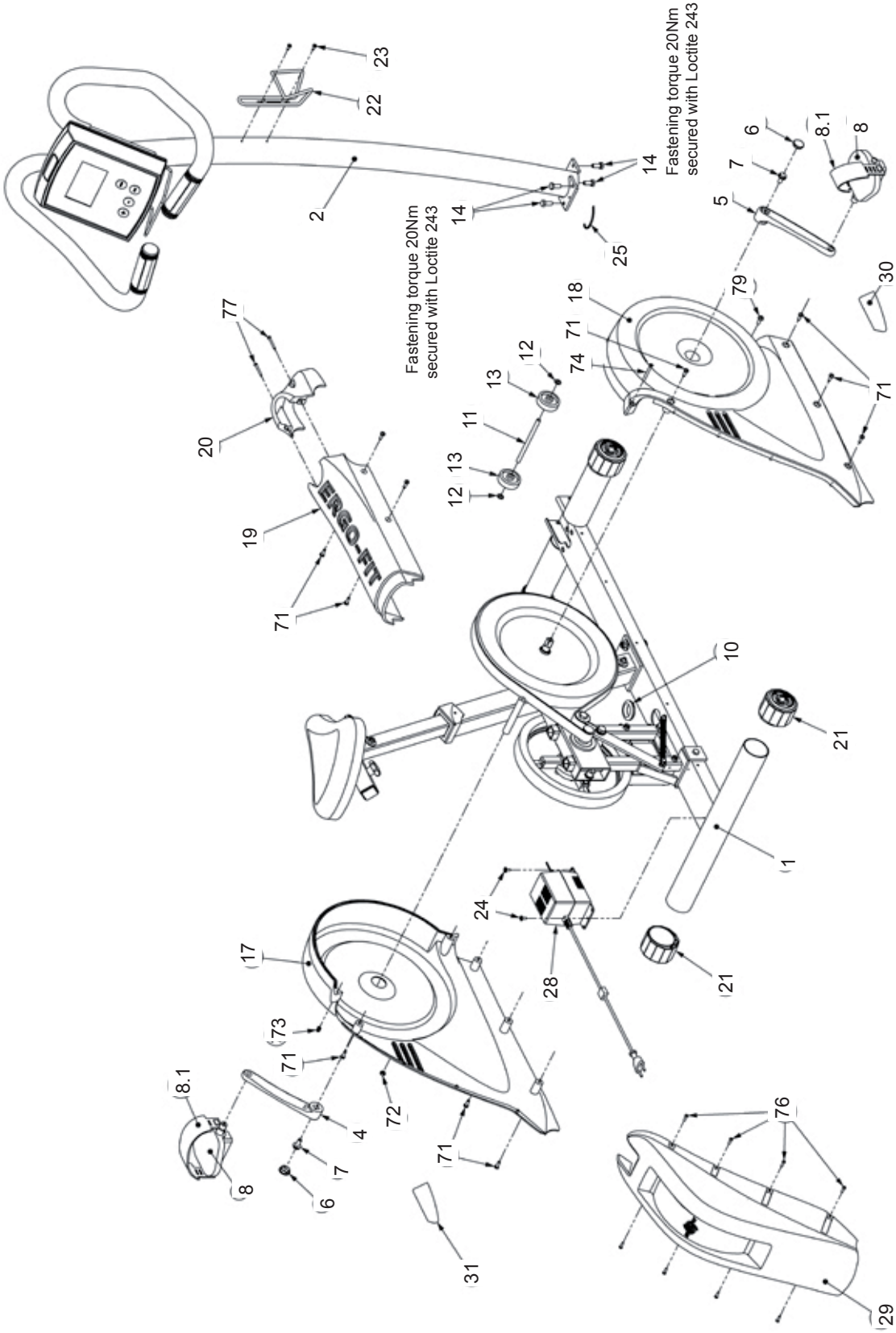
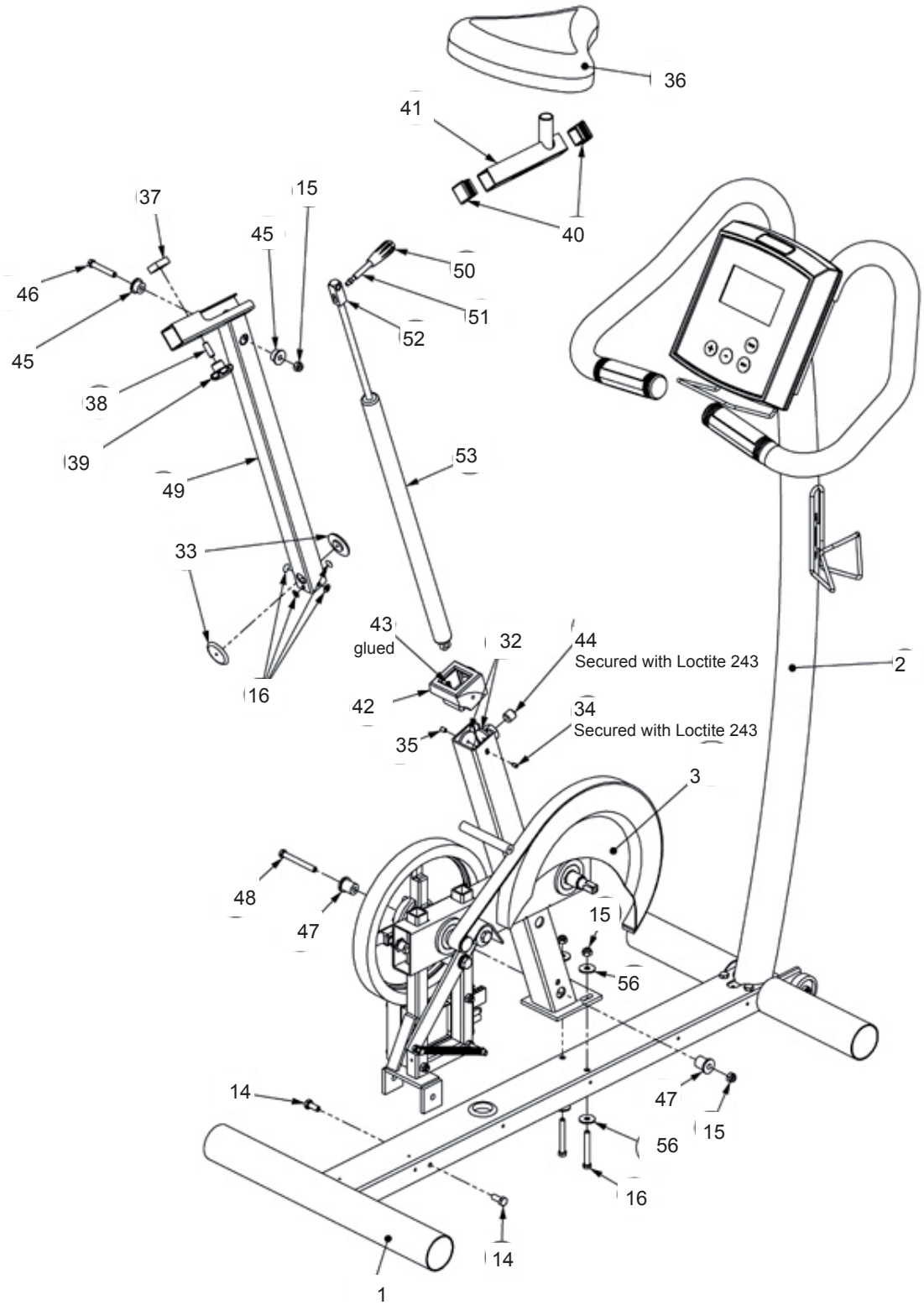
A.2.2 CYCLE 450





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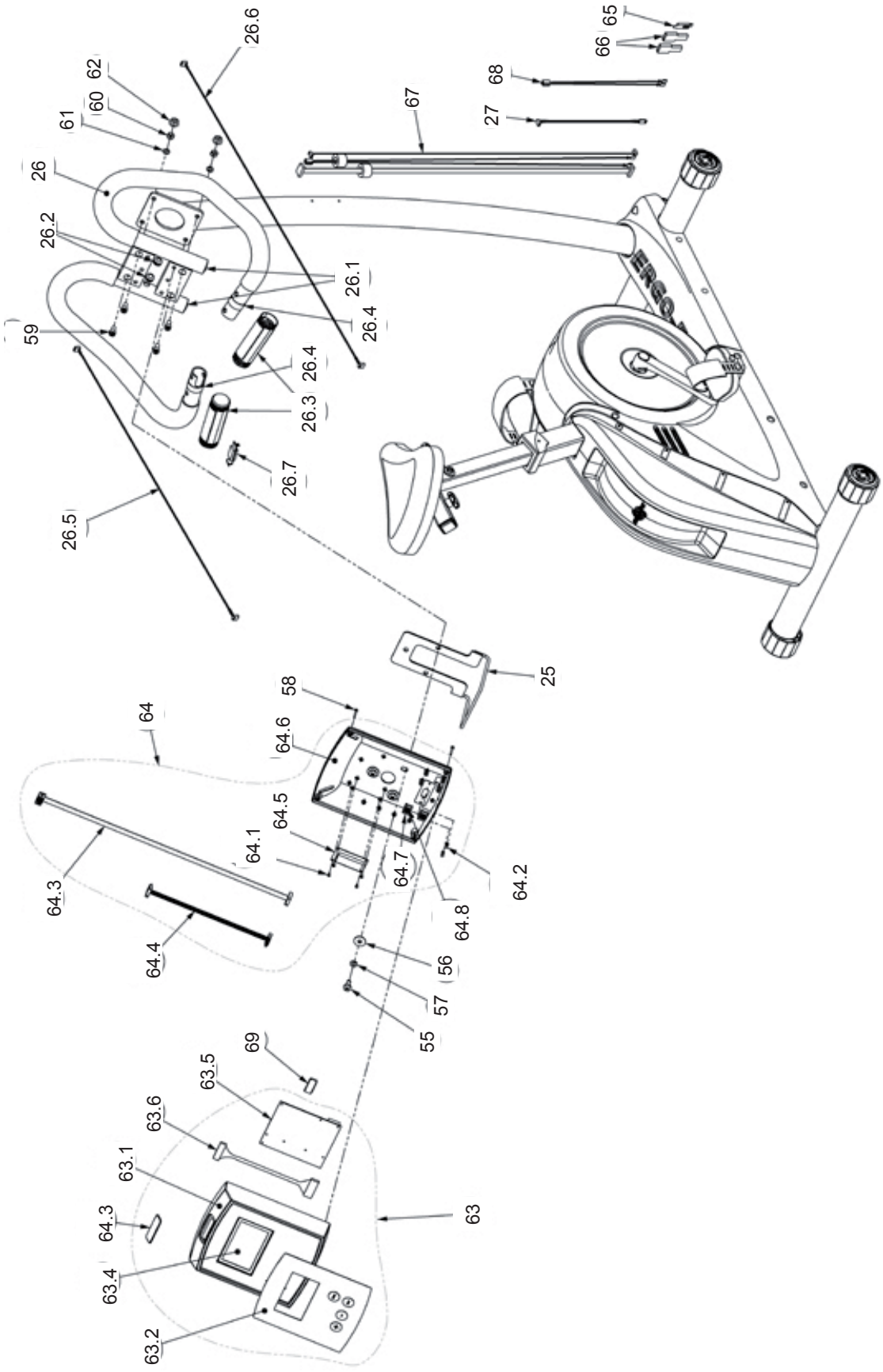
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Item	Part name	Spare part no.
1	Foot frame (welded)	340023F
2	Neck tube (welded)	340024F
3	Brake unit compl. (see separate spare part list)	340013G
4	Left crank handle	15253
5	Right crank handle	15254
6	Cab clips	15241
7	Screw with captive washer DIN 933 M8x1x18 (10.9)	15242
8	Pedals (1 pair)	15080
8.1	Pedal strings long (1 pair)	15172
10	Cable grommet	16194
11	Roller axle	340046F
12	Mounting cab D8	14020
13	Polyamide wheel	22014
14	Hexagon screw DIN 933 M8x20	10077
15	Hexagon nut DIN 958 M8 self-locking	12038
16	Hexagon screw DIN 931 M8x60	10055
17	Left side cover	340.063.KT
18	Right side cover	340.064.KT
19	Access cover part 1	340.065.KT
20	Access cover part 2	340.066.KT
21	Foot	340.068.KT
22	Bottle holder	19020
23	Tread forming screw DIN 7500 M4x12	10476
24	Edge protection (55mm long)	16100
25	Book support (welded	027287F
26	Handlebar for hand pulse	340071G
26.1	Lamella plug D32	16241
26.2	Grommet	92009
26.3	Hand pulse 1,25 Inches (bored)	340073F
26.4	Plasticised PVC tube (40mm long))	99019
26.5	Hand pulse cable, left side	525729
26.6	Hand pulse cable, right side	525730
26.7	Hand pulse printed circuit 400 series	525734E
27	Pulse cable	525611
28	Power supply unit, unregulated, euro plug + foot switch	63024
29	Rear cover	340.062.KT
30	Label 400 right side	40218
31	Label 400 left side	40217
32	Pad D34,5x7	340.047.KT
33	Pad D43x7	340.018.KT
34	Headless setscrew DIN 915 M6x10	11072
35	Cylindrical pin DIN 913 M6x10	11065
36	Seat, wide	18030
37	Seat adjustment clamp	340058F
38	Headless setscrew DIN 913 M8x25	11063
39	Star knob DIN 6336 M8	24041
40	Lamella plug 30x30x2	16039
41	Seat adjustment (welded)	340.057.KT
42	Seat tube cover	340.049.KT

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Item	Part name	Spare part no.
43	Hexagon nut DIN 439 M6	12000
44	Headless setscrew 913 M16x1,5x16	11071
45	Bush Rd. D24x	340061F
46	Hexagon screw DIN 931 M8x50	10136
47	Bush Rd. D24x	340060F
48	Hexagon screw DIN 931 M8x70	10057
49	Seat tube compl. (welded)	340.080.KT
50	Handgrip for operating lever	24010
51	Release lever D8x95	234073F
52	Squared release head 15x15x42,5	234.099.KT
53	Pneumativ spring HY6 300	23061
54	Cover cap (shortened)	16014
55	Thread forming screwDIN 7500 M8x20	10475
56	Fender washer DIN 9021 D8,4	13021
57	Spring lock washer DIN 127 D8	13004
58	EJOT DELTAPT screw D3x25	10461
59	Cheese head screw DIN 912 M8x16 (12.9)	10331
60	Hexagon nut DIN 934 M8	12009
61	Retaining washer (Schnorr) D8	13161
62	Cap M8 SW13	16144
63	Control panel Cycle 450	525726G
63.1	Control panel upper part	027.226.KT
63.2	Touch sensitive membrane keyboard	027264E
63.3	Cover RAL 7021	027.269.KT
63.4	LCD module	53042
63.5	Printed circuit	525723E
63.6	LCD cable (CARDIO 3000)	61107
64	Control panel bottom part withRS 232	525738E
64.1	EJOT DELTAPT screw D2,5x7	10462
64.2	Locking screws, 1 set	75002
64.3	Cable RS 232	525528
64.4	Card reader (treadmill) cable	525.474
64.5	Printed circuit RS 232	525.483
64.6	Control panel bottom part A Bike	234139G
64.7	Screw base	7701
64.8	EJOT DELTAPT screw D4x8	10465
65	2-pole double pin case	87107
66	3-pole blade terminal 6,3	87065
67	Cable harness	525728
68	12 V-conduction	61098
69	Eprom 3000/3000 S	525732
70	Pan head screw M4x12	10208
71	Thread forming screw DIN 7500 M5x20	10483
72	Hexagon nut DIN 934 M6	12007
73	Self-tapping threaded bushing M5	12075
74	Countersunk head screw DIN 965 M5x50	10492
75	Raised cheese head screw DIN 7985 M6x16	10491
76	Sheet metal screw 3,9x19	10489
77	Sheet metal screw 3,9x19	10488

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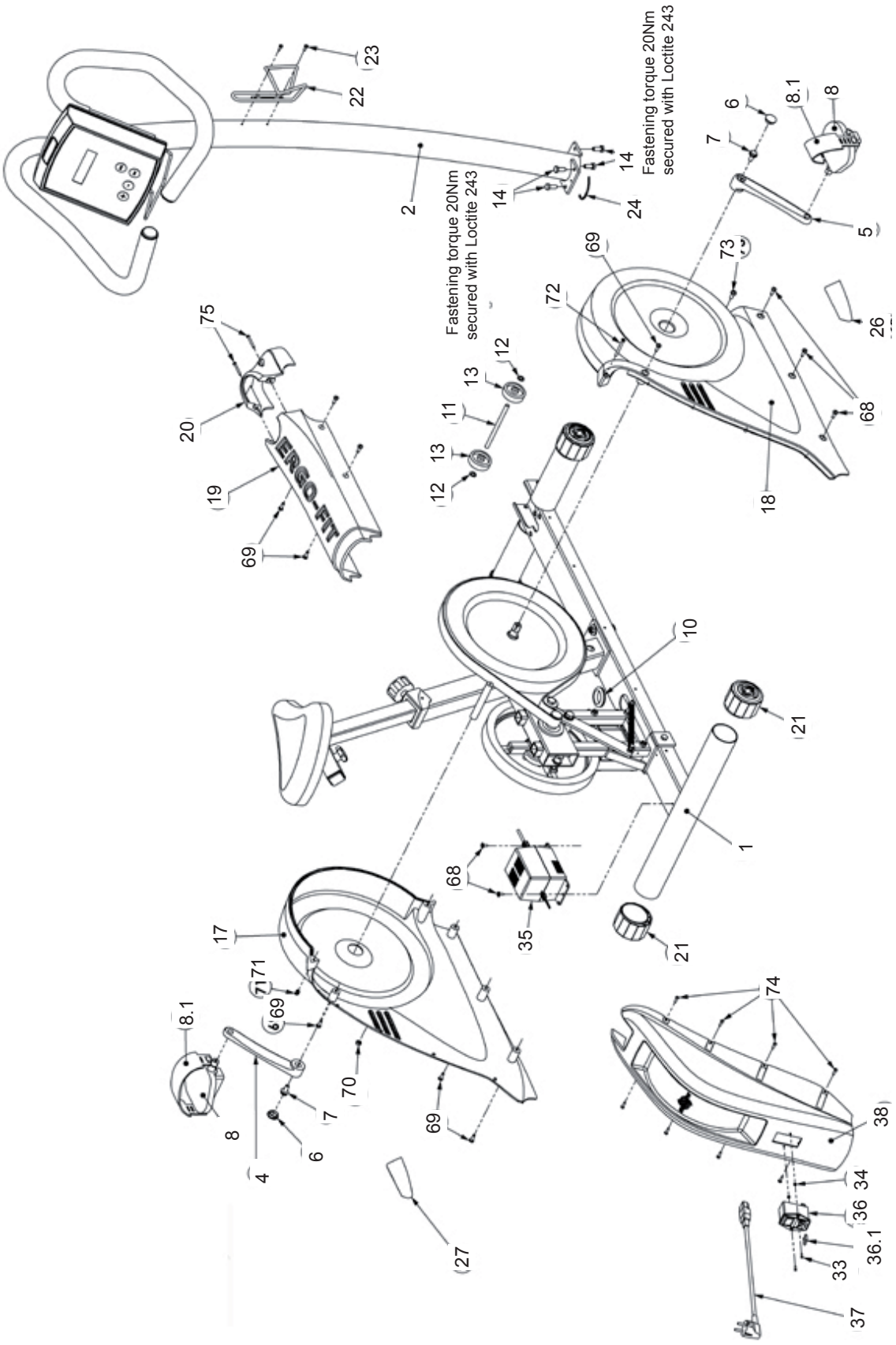
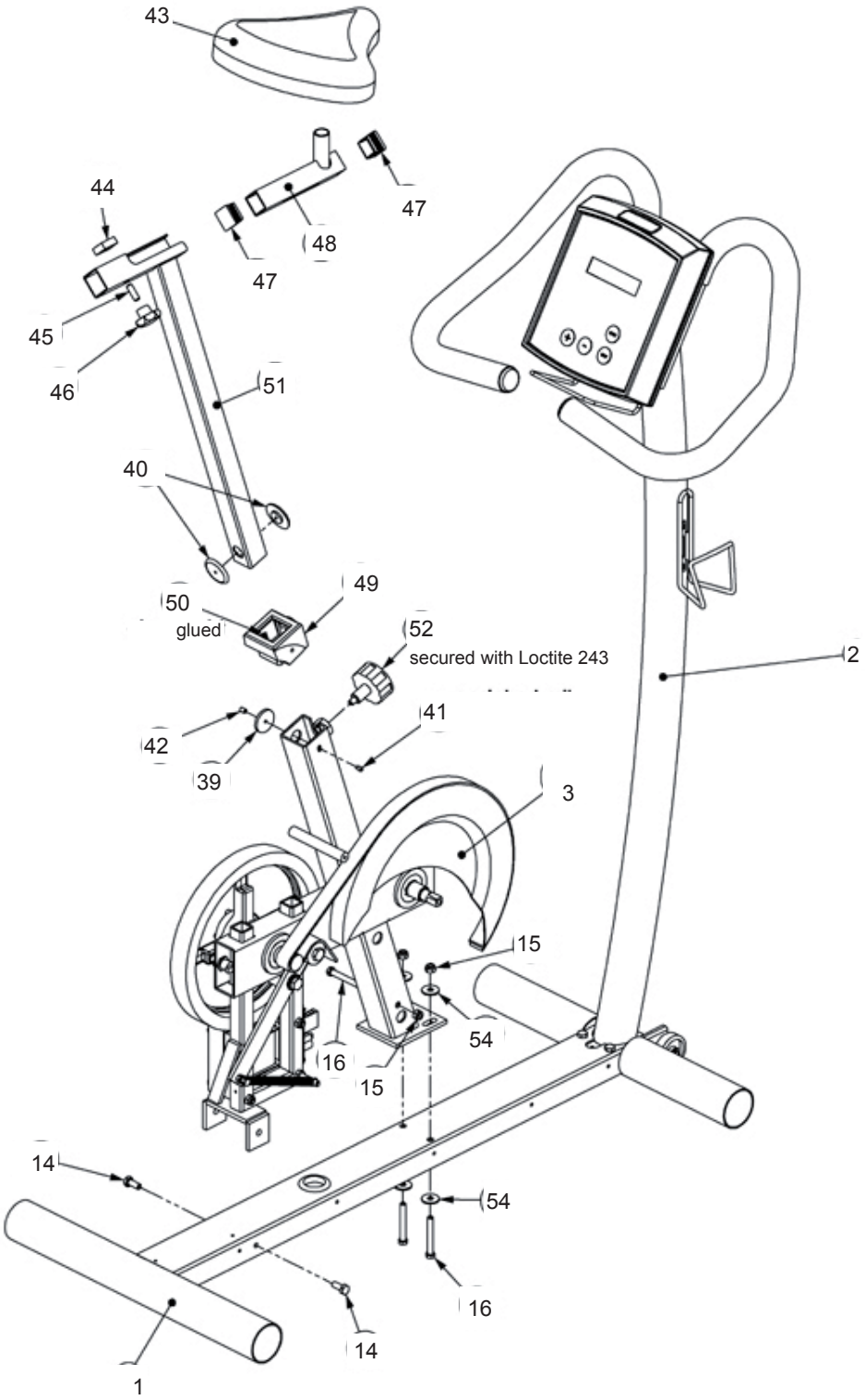
A.2.3 CYCLE 407 MED





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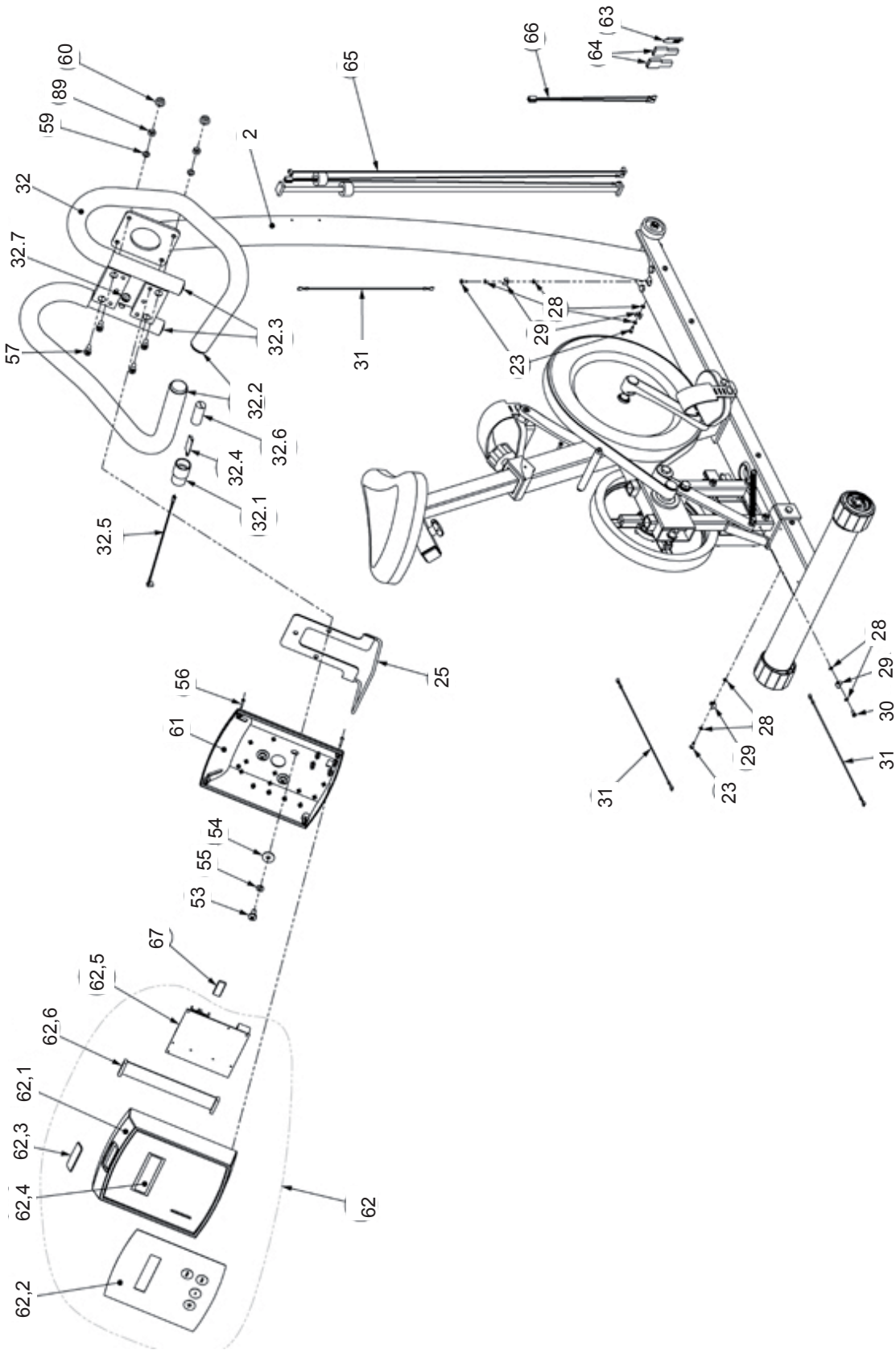
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Item	Part name	Spare part no.
1	Foot frame (welded))	340023F
2	Neck tube (welded))	340024F
3	Brake unit compl. (see separate spare part list))	340013G
4	Left crank handle	15253
5	Right crank handle	15254
6	Cab clips	15241
7	Screw with captive washer DIN 933 M8x1x18 (10.9)	15242
8	Pedals (1 pair)	15080
8.1	Pedal strings long (1 pair)	15172
10	Cable grommet	16194
11	Roller axle	340046F
12	Mounting cab D8	14020
13	Polyamide wheel	22014
14	Hexagon svrew DIN 933 M8x20	10077
15	Hexagon nut DIN 958 M8 self-locking	12038
16	Hexagon screw DIN 931 M8x60	10055
17	Left side cover	340.063.KT
18	Right side cover	340.064.KT
19	Access cover part 1	340.065.KT
20	Access cover part 2	340.066.KT
21	Foot	340.068.KT
22	Bottle holder	19020
23	Tread forming screwDIN 7500 M4x12	10476
24	Edge protection (55mm long)	16100
25	Book support (welded))	027287F
26	Label 407 right side	40220
27	Label 407 left side	40219
28	Serrated lock washer DIN 6798 D4,3	13013
29	Double tab connector	49019
30	Raised cheese head screw DIN 7985 M4x10	10100
31	Earth wire	61101
32	Handlebar with tube (without hand pulse)	340072G
32.1	Pulse sleeve	340078F
32.2	Lamella plug D35	16077
32.3	Lamella plug D32	16241
32.4	Heart rate receiver printed circuit	525737
32.5	Pulse cable	525611
32.6	Foamed plastic pad (0,25)	18019
32.7	Grommet	92009
33	Countersunk head screw DIN 965 M3x12	10103
34	Hexagon nut DIN 934 M3	12004
35	Power supply unit, unregulated	63019
36	Power input module	87100
37	Fine-wire fuse 1A, slow-acting	91005
38	Power-cord 2,5m, unwound, grey	61037

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Item	Part name	Spare part no.
38	Rear cover, with cutout	340070F
39	Pad D34,5x7	340.047.KT
40	Pad D43x7	340.018.KT
41	Headless setscrew DIN 915 M6x10	11072
42	Cylindrical pin DIN 913 M6x10	11065
43	Seat, wide	18030
44	Seat adjustment clamp	340058F
45	Headless setscrew DIN 913 M8x25	11063
46	Star knob DIN 6336 M8	24041
47	Lamella plug 30x30x2	16039
48	Seat adjustment (welded)	340.057.KT
49	Seat tube cover	340.049.KT
50	Hexagon nut DIN 439 M6	12000
51	Seat tube (welded)	340.051.KT
52	Handle with plunger (M16x1,5)	24054
53	Thread forming screwDIN 7500 M8x20	10475
54	Fender washer DIN 9021 D8,4	13021
55	Spring lock washer DIN 127 D8	13004
56	EJOT DELTAPT screw D3x25	10461
57	Cheese head screw DIN 912 M8x16 (12.9)	10331
58	Hexagon nut DIN 934 M8	12009
59	Retaining washer (Schnorr) D8	13161
60	Cap M8 SW13	16144
61	Control panel bottom part	027.225.KT
62	Control panel Cycle 400	525727G
62.1	Control panel, small display	027.235.KT
62.2	Touch sensitive membrane keyboard	027240E
62.3	Cover RAL 7021	027.269.KT
62.4	LCD 400/407	525733E
62.5	Printed circuit 400	525722E
62.6	LCD connector cable (30cm)	61034
63	2-pole double pin case	87107
64	3-pole blade terminal 6,3	87065
65	Cable harness	525728
66	12V-conduction	61098
67	Eprom 3000/3000 S	525732
68	Pan head screw M4x12	10208
69	Thread forming screwDIN 7500 M5x20	10483
70	Hexagon nut DIN 934 M6	12007
71	Self-tapping threaded bushing M5	12075
72	Countersunk head screw DIN 965 M5x50	10492
73	Raised cheese head screw DIN 7985 M6x16	10491
74	Sheet metal screw 3,9x19	10489
75	Sheet metal screw 3,9x19	10488

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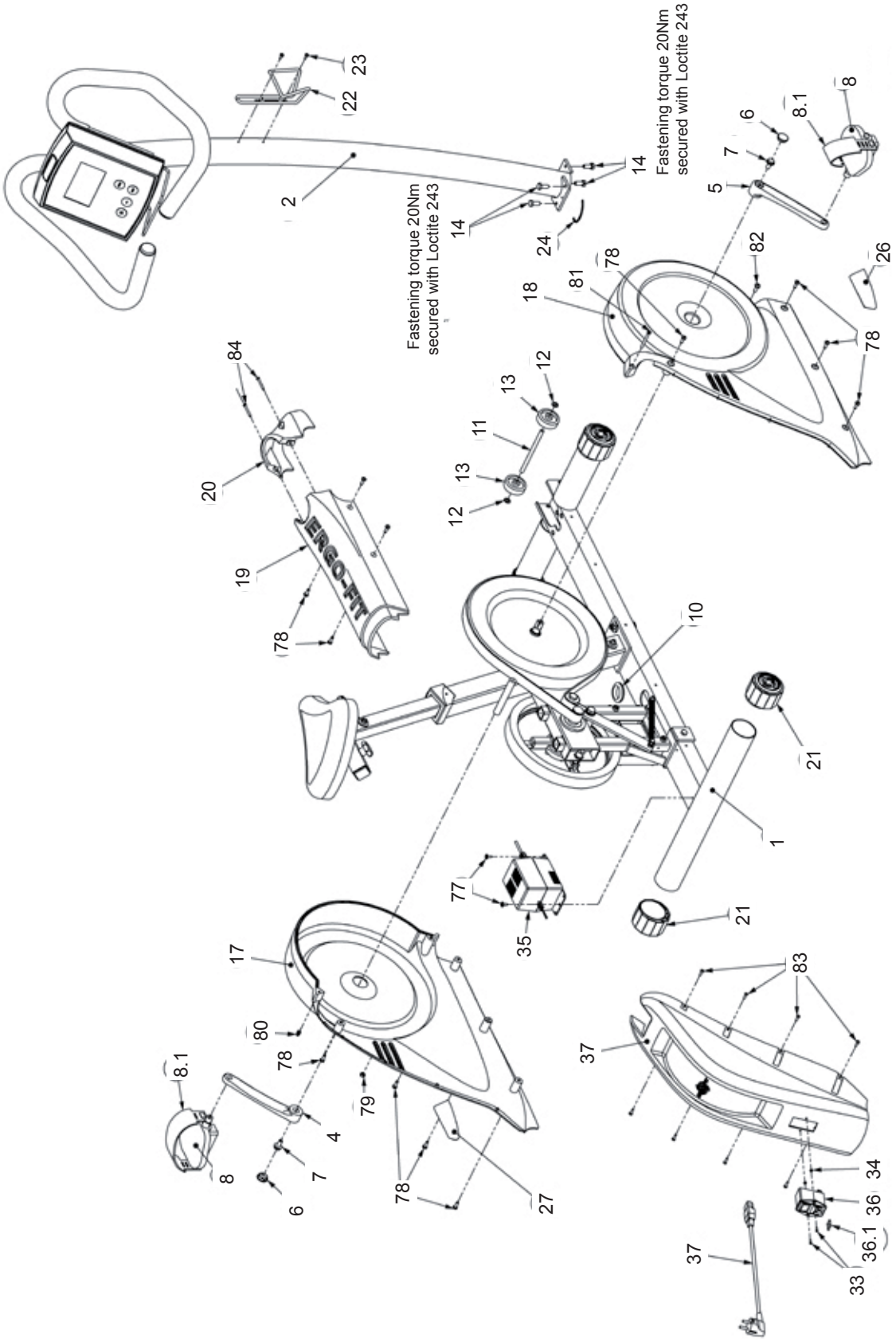
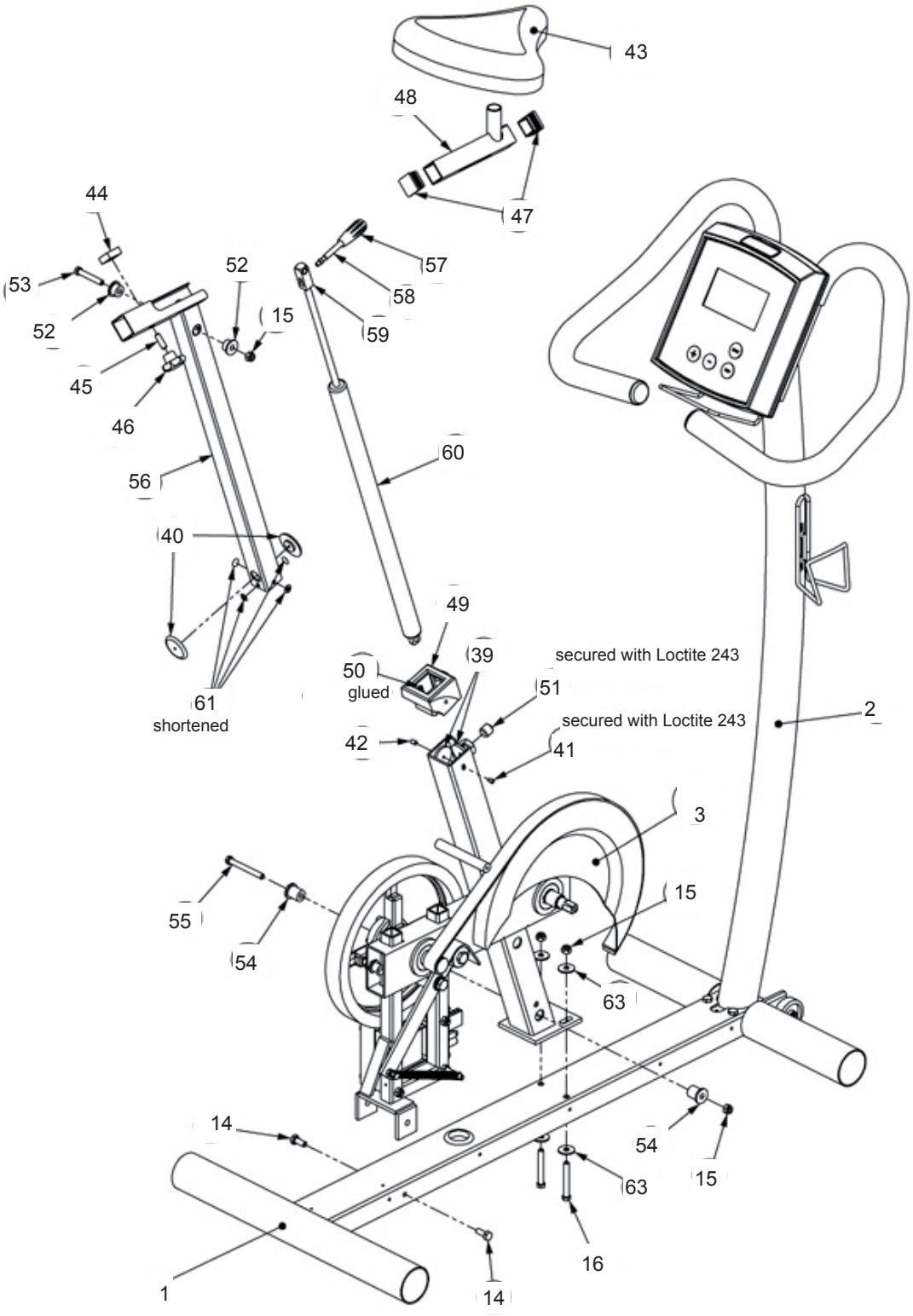
A.2.4 CYCLE 457 MED





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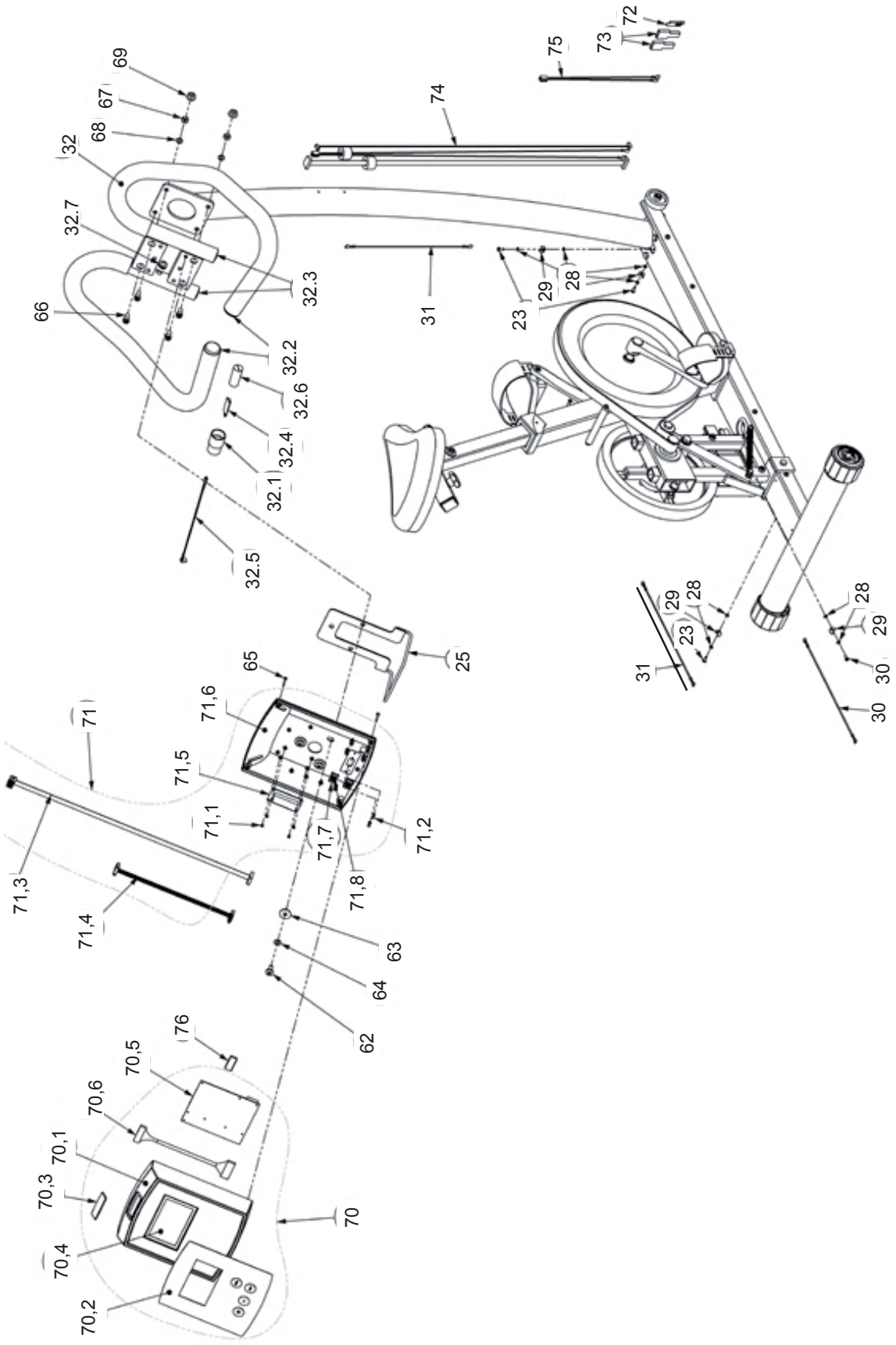
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Item	Part name	Spare part no.
1	Foot frame (welded))	340023F
2	Neck tube (welded))	340024F
3	Brake unit compl. (see separate spare part list)	340013G
4	Left crank handle	15253
5	Right crank handle	15254
6	Cab clips	15241
7	Screw with captive washer DIN 933 M8x1x18 (10.9)	15242
8	Pedals (1 pair))	15080
8.1	Pedal strings long (1 pair)	15172
10	Cable grommet	16194
11	Roller axle	340046F
12	Mounting cab D8	14020
13	Polyamide wheel	22014
14	Hexagon svrew DIN 933 M8x20	10077
15	Hexagon nut DIN 958 M8 self-locking	12038
16	Hexagon svrew DIN 931 M8x60	10055
17	Left side cover	340.063.KT
18	Right side cover	340.064.KT
19	Access cover part 1	340.065.KT
20	Access cover part 2	340.066.KT
21	Foot	340.068.KT
22	Bottle holder	19020
23	Tread forming screwDIN 7500 M4x12	10476
24	Edge protection (55mm long)	16100
25	Book support (welded)	027287F
26	Label 457 right side	40222
27	Label 457 left side	40221
28	Serrated lock washer DIN 6798 D4,3	13013
29	Double tab connector	49019
30	Raised cheese head screw DIN 7985 M4x10	10100
31	Earth wire	61101
32	Handlebar with tube (without hand pulse))	340072G
32.1	Pulse sleeve	340078F
32.2	Lamella plug D35	16077
32.3	Lamella plug D32	16241
32.4	Heart rate receiver printed circuit	525737
32.5	Pulse cable	525611
32.6	Foamed plastic pad (0,25)	18019
32.7	Grommet	92009
33	Countersunk head screw DIN 965 M3x12	10103
34	Hexagon nut DIN 934 M3	12004
35	Power supply unit, unregulated	63019
35.1	Power input module	87100
36	Fine-wire fuse 1A, slow-acting	91005
37	Power-cord 2,5m, unwound, grey	61037
38	Rear cover, with cutout	340070F
39	Pad D34,5x7	340.047.KT
40	Pad D43x7	340.018.KT
41	Headless setscrew DIN 915 M6x10	11072
42	Cylindrical pin DIN 913 M6x10	11065
43	Seat, wide	18030
44	Seat adjustment clamp	340058F
45	Headless setscrew DIN 913 M8x25	11063

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Item	Part name	Spart part no.
46	Star knob DIN 6336 M8	24041
47	Lamella plug 30x30x2	16039
48	Seat adjustment (welded))	340.057.KT
49	Seat tube cover	340.049.KT
50	Hexagon nut DIN 439 M6	12000
51	Headless setscrew DIN 913 M16x1,5x16	11071
52	Bush Rd. D24x	340061F
53	Hexagon screw DIN 931 M8x50	10136
54	Bush Rd. D24x	340060F
55	Hexagon screw DIN 931 M8x70	10057
56	Seat tube (welded)	340.080.KT
57	Handgrip for operating lever	24010
58	Release lever D8x95	234073F
59	Squared release head 15x15x42,5	234.099.KT
60	Pneumativ spring HY6 300	23061
61	Cover cap (shortened)	16014
62	Thread forming screwDIN 7500 M8x20	10475
63	Fender washer DIN 9021 D8,4	13021
64	Spring lock washer DIN 127 D8	13004
65	EJOT DELTAPT screw D3x25	10461
66	Cheese head screw DIN 912 M8x16 (12.9)	10331
67	Hexagon nut DIN 934 M8	12009
68	Retaining washer (Schnorr) D8	13161
69	Cap M8 SW13	16144
70	Control panel Cycle 450	525726G
70.1	Control panel upper part	027.226.KT
70.2	Touch sensitive membrane keyboard	027264E
70.3	Cover RAL 7021	027.269.KT
70.4	LCD module	53042
70.5	Printed circuit 450	525723E
70.6	LCD cable (Cardio 3000)	61107
71	Control panel bottom part with RS232	525738E
71.1	EJOT DELTAPT screw D2,5x7	10462
71.2	Locking screws, 1 set	75002
71.3	Cable RS 232	525528
71.4	Card reader (treadmill) cable	525.474
71.5	Printed circuit RS 232	525.483
71.6	Control panel bottom part A Bike	234139G
71.7	Screw base	77001
71.8	EJOT DELTAPT screw D4x8	10465
72	2-pole double pin case	87107
73	3-pole blade terminal 6,3	87065
74	Cable harness	525728
75	12V-conduction	61098
76	Eprom 3000/3000 S	525732
77	Pan head screw M4x12	12208
78	Thread forming screw DIN 7500 M5x20	10483
79	Hexagon nut DIN 934 M6	12007
80	Self-tapping threaded bushing	12075
81	Countersunk head screw DIN 965 M5x50	10492
82	Raised cheese head screw DIN 7985 M6x16	10491
83	Sheet metal screw DIN 7981 3,9x16 (black, galvanised)	10489
84	Sheet metal screw DIN 7981 3,9x38 (black, galvanised)	10488

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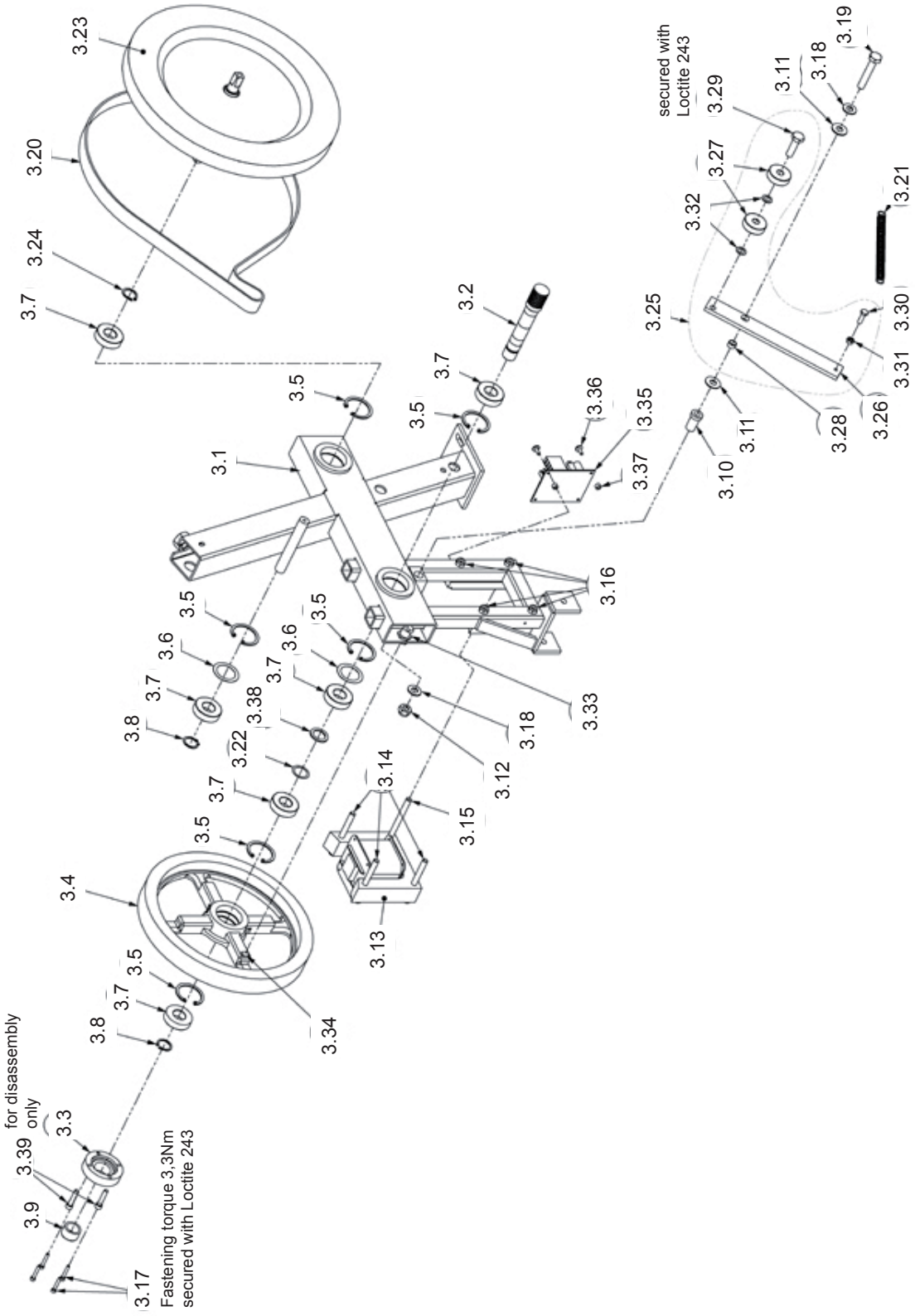
A.2.5 Brake unit



Item	part name	Spare part no.
3.1	Support frame (welded)	340003F
3.2	Flywheel shaft rd.D24,5x138,5	340044F
3.3	Freewheel flange D60x23	340015F
3.4	Flywheel	340.010.KT
3.5	I-retaining ringDIN 472 D42,1x1,75	14007
3.6	Ball bearing compensating washer for 6004	13032
3.7	Deep-groove ball bearing RK 6004 2Z 20x42x12	15003
3.8	A-retaining ring DIN 471 D20x1,2	14003
3.9	Freewheel HF2016 20x26x16	15113
3.10	Rd. 18x30 (cut off)	340028F
3.11	POM thrust washer D10,5x24x1,5	13141
3.12	Hexagon nut DIN 985 M10 self-locking	12062
3.13	Coil with core	140099G
3.14	Hexagon screw DIN 933 M8x80	10427
3.15	Hexagon screw DIN 933 M8x110	10473
3.16	Hexagon nut DIN 985 M8 self-locking	12038
3.17	Cheese head screw DIN 912 M4x25	10487
3.18	Washer DIN 125 D10,5	13011
3.19	Hexagon screw DIN 931 M10x60	10137
3.20	Poly-V-belt 1244 PJ9	15226
3.21	Tension spring Z115V-37X	23025
3.22	Ball bearing compensating washerD12xD27x0,3	13055
3.23	Pedal shaft, compl. (welded))	340034F
3.24	A-retaining ringDIN 471 D20x1,2	14003
3.25	Belt tensioner (mounted))	340026G
3.26	Fl. 30x6x225	340020F
3.27	Deep-groove ball bearing 6300 2RS 10x35x11	15257
3.28	ASK plain bearing ZI 110N D10xD12x6	16278
3.29	Hexagon screw DIN 933 M10x35	10133
3.30	Hexagon screw DIN 933 M6x20	10075
3.31	Hexagon nut DIN 934 M6	12007
3.32	Shim ringDIN 988 10x16x1,0	13176
3.33	Rev counter 0,9m	60015
3.34	Magnet Secolit 215	19010
3.35	Printed circuit MAG IF	525.087
3.36	Pan head screw M4x12	10208
3.37	Spacer ring D8,4xD4,3x5	16044
3.38	Shim ring DIN 988 D28xD20x2	13180
3.39	Cheese head screw DIN 912 M6x30	10264

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A.9 Entry in the Registry of medical devices

In compliance with Art. 11 para. 7 and Art. 7 of the regulation on the erection, operation, and use of medical devices ("MPBetreibV") as of June 29, 1998 (BGBt 1. p. 1762), the person who carries out metrological controls must immediately record the measured values, the measuring method, as well as other evaluation results into the registry of medical devices. As during metrological control of your medical device the registry of medical devices was not available, we ask you to use the following data for your documentation.

Operator:

Company: _____

Contact person: _____

Street: _____

Post code, place: _____

Manufacturer::

ERGO-FIT GmbH & Co. KG, Blocksbergstraße 165, D-66955 Pirmasens

Device identification

Device designation: _____

Model: _____

Serial number: _____

_____

Measuring method and evaluation:

☐ Leitfaden zu messtechnischen Kontrollen (LMK)

☐ AAppendix 15 or appendix 23 of calibration regulations (EQ 15 or EQ 23)

☐ Remarks: _____

Applied perpendicular: _____

Entry of measured results: see following page(s)

☐ metrological control o.k.; annual designation of sealing:

☐ metrological control **not o.k.; old sealing oliterated**

_____

Signature

Measuring method and evaluation:

☐ Leitfaden zu messtechnischen Kontrollen (LMK)

☐ AAppendix 15 or appendix 23 of calibration regulations (EQ 15 or EQ 23)

☐ Remarks: _____

Applied perpendicular: _____

Entry of measured results: see following page(s)

☐ metrological control o.k.; annual designation of sealing:

☐ metrological control **not o.k.; old sealing oliterated**

_____

Signature

_____

Measuring method and evaluation:

☐ Leitfaden zu messtechnischen Kontrollen (LMK)

☐ AAppendix 15 or appendix 23 of calibration regulations (EQ 15 or EQ 23)

☐ Remarks: _____

Applied perpendicular: _____

Entry of measured results: see following page(s)

☐ metrological control o.k.; annual designation of sealing:

☐ metrological control **not o.k.; old sealing oliterated**

_____

Signature

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Registration of medical devices add-in card

Operator: _____

_____

_____

1. Designation of the medical device:

   _____

2. Functional test and introduction:

   Functional test carried out
   on:_____ by:_____

   Introduction carried out
   on:_____ by:_____

   Introduced person: _____

   _____

   _____

   _____

3. Metrological inspection: at least every two years

   Next inspection: _____

   by (person's name: _____

4. Safety inspection/maintenance test: at least every 12 months

   Next inspection: _____

   by (person's name): _____

5. Date, type and consequence of the defect and repeated identical operating fault: _____

   _____

   _____

6. Reports of incidents to authorities and manufacturer:

   _____

   _____

A.10 Conformities

EC Declaration of conformity

This is to certify that the products:
CYCLE 400
CYCLE 450

fulfil the requirements laid down in the following standards and guidelines
- **2004/108/EC**
  EMC (electromagnetic compatibility) Directive
- **2006/95/EG**
  Low voltage directive
- **EN 957,**
  Stationary training equipment
- **DIN EN 60335-1, protection class II**
  Household and similar electrical appliances - Safety – Part 1: General requirements

This declaration applies to all machines supplied from 01.01.2011 to 31.12.2011 and has been issued with full responsibility to the producer
ERGO-FIT GmbH & Co. KG
Blocksbergstraße 165
66955 Pirmasens

by:

Michael Resch
(Managing Director)

Pirmasens, 08.02.2011

EG-Konformitätserklärung

EC Declaration of conformity:
CYCLE 407 MED
CYCLE 457 MED

fulfil the requirements laid down in the following standards and guidelines

- **2004/108/EC**
  EMC (electromagnetic compatibility) Directive
- **MPG, MDD 93/42/EEC, class of models IIa**
  Medical Device Directive
- **EN 957**
  Stationary training equipment
- **DIN EN 60601-1, class of protection I, degree of protection type B**
  Medical electrical equipment – Part 1: General requirements for safety and essential performance
- **DIN EN 60601-1-2**
  Medical electrical equipment – Part 1: General requirements for safety and essential performance – Collateral standard: Electromagnetic compatibility - Requirements and tests
- **DIN EN 60601-1-6**
  Medical electrical equipment – Part 1: General requirements for safety and essential performance – Collateral standard: Usability
- **DIN VDE 0750-238**
  Medical electrical equipment – Part 238 Particular requirements for the safety of crank ergometers
- **DIN EN 62304**
  Medical device software - Software life-cycle processes

Notified body:
DQS GmbH
August-Schanz-Straße 21
60433 Frankfurt am Main
Kennnummer 0297

This declaration applies to all machines supplied from 01.01.2011 to 31.12.2011 and has been issued with full responsibility to the producer
ERGO-FIT GmbH & Co. KG
Blocksbergstraße 165
66955 Pirmasens

by:

Michael Resch
(Managing Director)

Pirmasens, 08.02.2011

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Safety indications
CARDIO LINE 400

- ⊗ Do not start the machine before carefully reading the owner's manual.
- ⊗ Check the power connection before training.
- ⊗ Never use the device without current and only use after a proper functional test.
- ⊗ Switch off the machine after training and disconnect it from the grid.
- ⊗ Wear only appropriate sportswear and footwear during training.
- ⊗ Never lean on the control panel or the casing and make improper movements.
- ⊗ Never start training with the maximum strain. Increase its intensity slowly.
- ⊗ Check if the seat is secured in position before getting on the machine.
- ⊗ Do not lean over the handlebar and do not shift your body weight over the side of the machine. There is a danger of falling over.
- ⊗ Children must not use the machine unsupervised and must stay away from the machine and moving parts.
- ⊗ In case of nausea or dizziness, you should stop training immediately, inform the fitness coach and / or see a doctor.
- ⊗ If you have a cardiac pace maker or a health condition, see your doctor before using the training machine.
- ⊗ Do not jump from the training machine during your workout.
- ⊗ Do not take your feet off the pedals during training.
- ⊗ Once per week, check the moving parts and the casing for damage. If the machine is damaged, have it repaired immediately.
- ⊗ The ventilation slots must not be covered. This can cause the machine to overheat.
- ⊗ Only use the machine for the purposes it is designed for.
- ⊗ Please consider further safety and operational notices in the manual.

These safety precautions must be displayed where they are visible from the strength exercise machine! All users of the machine must inform themselves of the dangers and safety regulations. The manufacturer will not be liable for personal injury or material damage

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Safety Precautions
CARDIO LINE 400 MED

- ⊗ Do not start the machine before carefully reading the owner's manual.
- ⊗ Check the power connection before training.
- ⊗ Never use the device without current and use only after a proper functional test.
- ⊗ The machine is only to be used after consulting a doctor and / or a supervisor. The machine must not be used without the presence of a supervisor.
- ⊗ Switch off the machine after training and disconnect it from the grid.
- ⊗ Wear only appropriate sportswear and footwear during training.
- ⊗ Never lean on the control panel or the casing and make improper movements.
- ⊗ Never start training with the maximum strain. Increase its intensity slowly.
- ⊗ Check if the seat is secured in position before getting on the machine.
- ⊗ Do not lean over the handlebar and do not shift your body weight over the side of the machine. There is a danger of falling over.
- ⊗ Children must not use the machine unsupervised and must stay away from the machine and moving parts.
- ⊗ In case of nausea or dizziness, you should stop training immediately, inform the fitness coach and / or see a doctor.
- ⊗ If you have a cardiac pace maker or a health condition, see your doctor before using the training machine.
- ⊗ Do not jump from the training machine during your workout.
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- ⊗ Once per week, check the moving parts and the casing for damage. If the machine is damaged, have it repaired immediately.
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- ⊗ Only use the machine for the purposes it is designed for.
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These safety precautions must be displayed where they are visible from the strength exercise machine! All users of the machine must inform themselves of the dangers and safety regulations. The manufacturer will not be liable for personal injury or material damage

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ERGO-FIT GmbH & Co. KG

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